

THE MAKING OF A GUNNER



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THE MAKING OF A GUNNER

By F. O. O.

AUTHOR OF
"WITH THE GUNS"

LONDON
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TO
D. C.

FOREWORD

EMBOLDENED by the reception accorded to *With the Guns*, I have ventured to produce the present volume. My endeavour has been to supplement the former book in some respects, and, in addition, to give a short account of the making of a gunner, and of the uses to which he is put when made. The work of the Artillery has lately attained a special prominence in the public mind, owing to the part that it took in the events that led to the great offensive on the Ancre during the last week in June 1916, but the details of this work are too often shrouded in mystery. I dare hope that the following chapters may serve to make this mystery less opaque, and to throw perhaps a feeble ray of illumination upon the inner life of a body of men who live and labour and die behind the limelight of the trenches.

F. O. O.

July 1916

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CHAPTER I

THE TRAINING OF THE RECRUIT

THE sudden transformation of several millions of peaceful citizens, most of whom, had they troubled their heads about the matter at all, had regarded the Service as a lazy, almost contemptible method of earning a living, into an enthusiastic and comparatively efficient Army will probably be adjudged by the verdict of history to be the greatest military feat ever accomplished. Perhaps, therefore, a glance at a very small section of the vast machinery used for the purpose may not be without interest.

Before the outbreak of war there existed six "Depots" for the Horse and Field, and four for the Garrison Artillery. These Depots were for the purpose of receiving the recruit from the moment of his enlistment, training him in the elementary drill in which it is necessary for men of all arms to become proficient, to allow of their being "handled" either singly or in mass, and providing him with uniform and other articles of clothing. For this purpose each Depot was equipped with a staff of carefully selected non-commissioned officers, men chosen for their smartness, knowledge of drill, and aptitude as instructors. These N.C.O.'s were drawn from batteries serving at home, and remained actually on the strength of those batteries. The establishment of the

Depot included three or four officers, and a small staff of clerks to deal with office work, which was naturally considerable.

The progress of the recruit was somewhat as follows : He offered himself to the local recruiting officer nearest to his own home, and, after a searching medical examination, and subject to his conforming to certain standards as to height, chest measurement, and the like, which varied with different branches of the Service, was attested, that is to say, he replied to certain questions, and finally signed his name to an undertaking to serve his King and Country for a period of twelve years, a certain number of which were to be passed in the Army itself, and the remainder in the Reserve. This proportion varied with the branch of the Service into which the recruit enlisted and with the requirements of the time, that is to say, whether the unit was nearly up to war strength or would require a large accession of men upon mobilization. For instance, the terms of service might be three years and nine years, or six and six, or eight and four, with the colours and in the Reserve respectively.

As soon as the recruit was duly attested, he was given a "route" to the Depot of the unit into which he had enlisted ; in the case of an Artillery recruit, to the Depot nearest to his place of enlistment. This "route" secured him a free ticket, and in addition, if the journey exceeded a certain number of hours, he was provided with a sum of money to enable him to buy food en route. Upon his arrival at the Depot, he was paraded at the Quartermaster's store, and with the assistance of the Sergeant-Tailor, carefully fitted with his uniform. He was then

allotted a Regimental Number, and became from that moment a regular soldier of His Majesty's Forces.

Meanwhile the Recruiting Officer had sent to the Officer Commanding the Depot the recruit's "attestation paper," which contained his answers to the questions originally put to him, his signature to the undertaking to serve, his description, and the signatures of the recruiting and attesting officers. To this was now added the date of his joining the Depot, and the remainder of his "documents" were prepared in readiness, his Battery and Regimental Conduct Sheets, Employment Sheets, and, by the Medical Officer before whom he appeared for a final examination, his Medical History Sheet. The documents formed his record of service, and accompanied the man throughout his subsequent movements. The "attestation paper" was made out in duplicate, and one copy was sent to the Record Office of the unit.

The man himself underwent a course of drills, physical training, and lectures, until he had reached a standard of efficiency that would warrant his being sent to his unit; when he attained this proficiency, he waited until the Depot was ordered to send a draft to the unit, and then formed a member of it. With this moment his actual training as a recruit ceased.

These preliminary stages in the conversion of a civilian into a soldier were the main duty of the Depots, but, apart from it, they had another different function to perform. Upon a soldier terminating his service with the colours, he gave up his uniform and equipment, and these were carefully stored at the Depot during the period in which his service in the

Reserve lasted. The Mobilization Store at a big Depot was a very interesting sight, with a certain space allotted to each Reservist attached to the Depot, and in it his uniform, kit, and equipment, most carefully labelled and numbered, ready for instant issue. It was the pride of the Quarter-master's heart, and woe betide the unfortunate wight who inadvertently displaced the smallest item, or who unwittingly marred the immaculate cleanliness of the floor by so much as a microscopic particle of mud!

This, then, was the condition of the Depots on the outbreak of war, and this the purposely deliberate procedure that governed the training of recruits. Time was of no importance compared with the attainment of efficiency, *festina lente* was their motto. And now let us see how this well-oiled, slow-moving machinery answered the test of mobilization, and how it was accelerated to meet the thousand per cent. overload imposed upon it. And rather than generalize upon conditions prevailing in every Depot, let us watch the process working in one particular Depot, which may be taken as a type of them all.

The normal floating population of this Depot, excluding, that is, the permanent staff of officers, N.C.O.'s, clerks, and so on, was about seventy. And upon the ears of this happy little family, as upon the rest of an astonished nation, sounded the clarion call. One word, brought by an ordinary telegraph boy in the familiar orange envelope, the one vital word "mobilize," and peace became in an instant the most strenuous preparation for war.

The first organization to feel the shock was, of course, the Mobilization Store. Many hundred Reservists had been warned by telegram to rejoin, and

in a few hours these men began to troop in from every corner of the British Isles. Accommodation had to be found for them, barrack-rooms improvised out of dining-rooms and sheds, tents pitched upon the hitherto inviolate cricket ground, even for a while upon the barrack square itself. Night and day the deluge continued, the weary staff toiled incessantly at the monotonous task of marshalling a disorderly rabble into squads and companies, telling them off to their quarters, inventing ways and means of cooking their food and serving it in as civilized a method as possible. It almost seemed as though human endurance had reached its limit, when the greatest blow of all fell, the order for the permanent staff to rejoin their batteries immediately.

Imagine the plight of the Commanding Officer ! Bereft of all his trusted assistants, face to face with a horde of men, more than half of whom had in the years since their discharge forgotten the first duty of a soldier, the art of looking after themselves, and trying to discover amongst their ranks the few N.C.O.'s who were capable of shepherding and of instructing the rest. The difficulty was accentuated by the fact that some eight years before the outbreak of war the terms of service had been three years with the colours and nine with the Reserve, consequently a large proportion of the mobilized Reservists were men who had only had three years' service originally, and, at the moment of this calling up, had completely forgotten the lessons of discipline that this short term had taught them. The chaos existing at this stage can better be imagined than described.

But worse was to follow. No sooner had the pressure upon the improvised staff been relieved by

the drafting of the more efficient of the mobilized Reservists to service units, than the scheme for the formation of the New Armies came into operation, and a fresh flood descended upon the Depot. This new influx differed in many important respects from its predecessor, and the comparison is interesting. The first flood consisted of men drawn whether they would or no from civilian employment, and in many cases discontented with the circumstances that brought them back to military life—for in the earliest days, be it remembered, any prolonged duration of the war was not seriously considered, and these men never hoped to see active service—and equipped with every art of the old soldier for escaping arduous duties, yet with sufficient of the old tradition remaining to allow of their being led by a determined hand. But the second flood were pure civilians, drawn to the colours by their sturdy patriotism, and perhaps even more by the Englishman's innate love of a "scrap," of adventure in unknown forms. They were keen, enthusiastic, pathetically anxious to learn, but utterly unmanageable from their very ignorance of discipline and its formulæ. In them was no leavening of experience that should help the whole on their first most difficult steps in the path of military knowledge, they flowed in too fast to allow of minute subdivision into squads to be carefully nursed by an experienced N.C.O., even had such been available.

Certainly they were divided into two classes, the first, men who had served previously, either in the Regular Army, their terms of service in the Reserve having expired, or in the old Militia or Volunteers, or in the Territorial Forces; the second, men who had had no previous military experience whatever. The

former class were known as "Special Reservists," and were attested for one year or the duration of the war, the latter class as men of the New Armies, and were attested for three years or the duration of the war, a subtle distinction whose purport or meaning no man might understand. But the "Special Reservists," slight and antiquated as their military knowledge might be, were too valuable to allow of their being left at the Depot, and they were drafted away almost as soon as they arrived. Winter added its complications to the difficulties already obtaining, the long rows of tents became too cold for human habitation, and billeting had to be resorted to. And billeting, meaning as it does the dispersal of men from the parade ground, is a curse in a training centre. Time was lost in going to and fro, the men, who at first came in much faster than uniform could be provided for them, were obliged to walk long distances in their often very inadequate civilian clothing, without the hope of a change at the end of their journey. It is significant of the physique of these early recruits that the proportion of sickness was very low at this period.

From the first, a certain higher standard of height and chest measurement had been maintained for the Artillery, and especially for the R.G.A. Although these standards were frequently altered, rising as the flow of recruits to the Regiment rose, and vice versa, they were always kept at a level that ensured a fine type of man being secured. But this artificial control of supply had the effect of producing a tide-like inflow at the Depot. The first wave reached its maximum in early September 1914, then fell steadily until recruiting received a great impetus from the

Lord Mayor's speech on November 5, 1914. The crest of this wave burst upon the Depot on the night of November 7-8, when nearly two hundred recruits were received. It then fell away until recruiting for the R.G.A. was closed in December 1914, for a period of some months, except for men who had previously served in the Regiment. Since that time the various semi-compulsion methods have affected recruiting in a way that is familiar to everybody, and under conscription the flow of men to any particular unit can be regulated as by a sluice, by opening and closing enlistment to that unit as required.

An interesting sidelight is thrown upon the psychology of voluntarism by the weekly periodic fluctuation in the number of recruits arriving. It was for some time my duty to register the recruits as they came in, and this I did daily at 8 A.M., classing the recruits who had arrived during the preceding twenty-four hours as having joined the previous day. In an experience extending over more than a dozen weeks, I found invariably that Sunday's total was the minimum for the week, Monday's considerably higher, Tuesday's considerably higher again, indeed, the maximum for the week, Wednesday's slightly less than Tuesday's, Thursday's very much less again, Friday's showed a slight recovery, and Saturday's a rapid decline. We were always enabled to predict, within a fairly small margin, the number of men for whom we should have to provide, unless our calculations were upset by one of the periodic rushes, of which, of course, we had no previous warning. Our system was to keep the gymnasium, cleared of its apparatus, as an emergency reception-room, and on the first symptoms of a rush to lay straw mattresses

upon the floor. Then, as the men arrived, they were given a bowl of hot cocoa and a mattress allotted to them, until in the morning they could be sorted out and apportioned to billets in the town.

But the recruit's progress in these days was by no means the deliberate happy development that it had been in peace-time. In the early winter of 1914 the floating population of the Depot had increased from seventy to two thousand, the places of the old permanent staff taken by re-enlisted N.C.O.'s who had largely forgotten, for the most part, the arts of soldiering themselves. Yet these men were the saviours of the situation. They set to work to re-acquire the old knowledge, and in an extraordinarily short time succeeded. And their methods with the raw material were a wonder to behold, an eternal tribute to "militarism" that teaches a man tact and patience and self-restraint. Those willing to learn they encouraged at the expense of their own time, those unwilling they showed by an exhibition of firmness that it was unwise to disobey them. The more apt among their pupils they used as examples to the more backward, upon whom they lavished a patience that an archangel might envy. So, by rapid stages, in huge unmanageable hordes, the recruits first straggled helplessly like a leaderless host of the blind, then walked irresolutely, then marched with quite a large percentage in step with one another, and finally manoeuvred, proudly, steadily, a compact body of men. Their progress was most easily gauged by their demeanour in the town during their hours of leisure. The majority of them were unprovided with uniform, but they were issued with badges to fix in their caps. For the first few days they would

spend their time lounging about the street corners, staring superciliously at an officer if he passed them, their hands in their pockets, a dejected look in their eyes, bandying words with the hangers-on of the public-houses. Gradually they smartened up, until after a fortnight or so one might meet a band of four or five stepping out smartly together, meeting one with a brisk, well-timed salute, their clothes smartly brushed, their badges burnished. And, most of all, not for its own virtue but for the new self-confidence whose birth it indicates, in these men's eyes was a contemptuous look and a superior scorn for the mere civilian who crossed their path.

The training of a week of peace had now to be concentrated into a day or two, and monotonous enough the work was to the instructors through whose hands batch after batch of recruits passed in steady succession. The recruit himself knew only that for one puzzled month he drilled continuously from sunrise to sunset, with hurried intervals for meals, in wet weather or fine. He scarcely had time to think ; before he was aware of it he found himself converted from an aimless lounger through life into a disciplined atom of a great, powerful army. How it had happened he hardly knew, these things cannot be taught, drill can merely convey to the mind the coherence between certain words of command and their appropriate muscular movements. The question of his development, if it troubled him at all, must have been surrounded with mystery.

At first sight, the barrack square was enough to break an old soldier's heart. In one corner would be a squad of some fifty men, the last joined, arrayed in all the splendour of their own particular fancies. It was

nearly always possible to tell their previous occupations from the clothes they wore. The stable-boy, in his Newmarket coat, breeches, and gaiters, the labourer in corduroys, the gardener in well-worn trousers and brand-new coat, the chauffeur in his black semi-livery, the mechanic in blue "boiler creepers," the loafer in a seedy-grey suiting, even the clerk in a smart well-cut coat and trousers, all were represented. And the hats! I had no idea that so many different forms of headgear were possible, from shiny "topper" to the coal-heaver's shovel-hat. One sportsman joined in stockings, yellow breeches, black morning-coat, and—an opera hat! He was billeted with a blacksmith's striker, in all the picturesque beauty of his forge apron, and a house painter, whose coat in its many colours rivalled Joseph's. The two latter regarded him as a conjurer, because he solemnly folded up his hat and put it in his pocket when he sat down to dinner. How awful were the first cautious movements of the last-joined squad! Their instructor, an old retired sergeant, lately a market-gardener, arrayed in a neat brown suit and a bowler, would patiently string them out into two comparatively parallel lines—I dare not call them ranks—and initiate them into the dark mysteries of turning and saluting and standing at ease. After a few painful hours, the squad had learnt to do much the same thing at any given word of command. Every few minutes they would be allowed to stand easy, and then their thoughts would wander to the old days, so far away, when a man who wished to change the direction in which he was facing might do so in any way that seemed good to him, without incurring reproof from a little man with a voice like a bull of Bashan. Then suddenly

would come a sharp bark : “ ‘Shun !’ ” and each man’s scattered wits would cause him to perform a different evolution. Some, the more hard-hearted, would assume a position of excruciating rigidity, their faces bearing a look as of a tortured martyr, others would turn, right, left, or about, others again would salute with their right or left hands, remaining in the ridiculous attitude affected by the stage soldier, or would take a step backwards, forwards, or to one side. The resulting effect upon the beauty of the squad may better be imagined than described.

From this first elementary squad one might wander past others in various stages of aptitude, one’s heart reviving as one progressed. Here were men, now with a sprinkling of strangely fitting khaki, or with an artistic blending of khaki caps and coats and indiscriminate nether garments, forming fours and changing direction with deliberate persistence. In another corner was a knot lying on the ground, grouped round their instructor, passing dummy cartridges through rifles with a prodigious crackling of snapping triggers. In the distance, the cook-house was in imminent danger of falling before the determined attack of a long string spread out in open order. And, happiest sight of all, see the nearly finished article swinging along the road outside, a long column in faultless sections of four, keeping step to their own happy chanting, hot, dusty, tired, thirsty, but sustained by the glorious feeling of fitness and buoyancy that comes from a hard life and good food.

Perhaps the Sunday Church Parade was the strangest sight of all. Church Parade raises in the soldiers’ mind an instant vision of helmets winking in the sun, of snowy white pipeclay, of blue tunics,

perfectly fitting and immaculate. And now, ranged in companies on the barrack square, were a couple of thousand recruits of all shapes and sizes, hardly any two of them dressed alike. Like a long despairing serpent the column wound its way through the town, at its head the most presentable, in the full glory of uniform, decreasing in beauty and regularity until at its tail straggled a party of tramps who had joined the night before, their rags held together by hastily improvised pieces of string. King's Regulations ordain that every available soldier shall be marched to or from the service of the particular denomination to which he declares himself to belong, whether he will or no. Whereby hangs a tale. A certain recruit, aware of this, and seeing an obvious way out of an onerous duty, declared himself upon interrogation to belong to no denomination. This defeated the Sergeant-Major, but not so the officer to whom he appealed, who, with the wisdom of a budding Solomon, decreed that on successive Sundays he should march with the Church of England, the Roman Catholics, the Wesleyans, the Methodists, the Presbyterians, and so on, until he should have arrived at some spiritual decision. I regret that I cannot remember which doctrine finally caught his fancy, it might be of interest to the controversially minded.

I wonder if it is permissible to give a hint to parsons who conduct parade services ? If so, this is it. In your sermons, do not assume that the brutal and licentious soldiery that yawn and cough before you are habitual breakers of all the Ten Commandments, especially the seventh. They are not, and they resent, far more than you imagine, your assuming that they are.

The scenes in the Depot office, and the humours of the administrative side of the work at this time, almost baffle description. To the staff, many of whom were working sixteen hours a day, they came as a blessing, even though the incidents that composed them usually involved a certain amount of extra work. Perhaps the hours in the evening from six to seven, when the Adjutant, with a view to helping the recruits as much as possible, held a sort of levée, at which any man who wanted advice or nursed a grievance was entitled to be heard, was the most amusing. One man would come in, the picture of indignation, declaring that some one had stolen his socks, and on being informed that unless he could give some clue the task of tracing them amongst a couple of thousand men might prove somewhat beyond human ability, would depart uncomforted. His place would be taken by another, who would unfold a fearfully complex genealogical table, apparently utterly irrelevant, until the sting that lay in the tail protruded ominously ; why had Gunner Williams J.'s mother's cousin's wife not received her separation allowance last week ? This was easier than it seems to deal with, hand him over to the Pay-Sergeant, and let them wrangle until one or other lost patience. Next please. Gunner Jones W. enters, very shy and utterly inaudible. He had met a girl and was going to marry her, but—but what ? She wanted a piece of paper, signed by an officer, declaring that she would draw separation allowance, before she would take the plunge. Wise lady ! And so on until the seemingly interminable queue at the office door had all been disposed of.

Almost rivalling this hour was the time when the

Commanding Officer sat in the seat of justice, disposing of prisoners. There was practically only one offence, that of absence without leave, and it became an acute problem as to how to deal with it. Obviously an extremely serious military crime, it had, in the previous experience of the recruits, been no offence at all, merely an indulgence involving a shortage of pay at the end of the week. Naturally it was almost impossible to convey to their minds this sudden change in their conditions, and the infliction of "Field Punishment," which corresponds to imprisonment, was undoubtedly too severe a penalty for a New Army recruit. Yet some deterrent had to be found. Confinement to barracks, when three-quarters of the offenders were in billets a mile or so away, was obviously a farce. The best solution of the difficulty appeared to be deprivation of pay, and a warning that a second offence would involve a term of Field Punishment.

The humours of the defaulters' hour lay in the amazing excuses offered to account for the absence, in all fervent earnestness. The average recruit was so appalled by the unwonted experience of being marched in before the C.O. under the protection of an escort that he was utterly tongue-tied, and only after much persuasion could he be induced to stammer out a few words of exculpation. Under these circumstances there could be no doubt of the genuineness of his excuses, and I have heard men state perfectly seriously that they had stopped to help their landlady in her washing, that it was too wet to come on parade, that they had felt tired, or that they had an appointment to keep.

But the darkest days of all were those upon which

were held periodical muster parades. With men split up into billets all over the town, men whose stay in the Depot was so short and whose numbers were so large that it was impossible for any man to remember a fifth part of their names, it often happened that the number of men on parade and the number of attestation papers in the office failed to tally. Then a muster parade was decided upon, a party was sent to hunt in every nook and corner to round up the last laggard, and the whole Depot in its unwieldiness would be assembled on parade. Then would begin the search for No. 44273 Gunner John Smith, whose papers lay in the office, but of whose body no trace could be found. After much investigation it would transpire that No. 44273 Gunner John Smith had gone on a draft to Bantry Bay a fortnight ago in the place of No. 42857 Gunner John Smith, both of them having blissfully forgotten their numbers. Then ensued much recrimination, and frantic correspondence with Bantry Bay. The muster parade itself was usually ended by the cooks falling out and expressing their fear that the men's dinners would be spoiled by its longer continuation.

Strenuous days were these earlier days of the war, days that demanded one's whole time and attention, but still days not devoid of humour and full of a great satisfaction. For these earliest recruits were men who flocked to the colours of their own free will, full of enthusiasm, eager to face the future that lay before them, and it was possible to watch their progress as their efficiency grew under one's very eyes. For the measure of the rate of a soldier's development is in the keenness with which he pursues it.

CHAPTER II

LIFE AT THE DEPOT

THE recruit's life at the Depot divided itself into many headings, the whole idea of preliminary training being to diversify the instruction as much as possible, in order to keep up the men's interest. The most enthusiastic feel their enthusiasm fade away in the course of a whole morning of forming fours, or of sitting in a stuffy barrack-room listening to an earnest but unconvincing instructor who pours out long meaningless sentences learnt by heart from the textbooks.

Of drills proper, physical training is probably the most important, and the one most free from monotony. This and infrantry drill occupied the greater part of the recruit's time. The gunner is never an adept at infantry drill, at the best of times, and as the drill itself had been altered many times since the original retirement of the N.C.O.'s from the service, I fancy that some of the evolutions performed under this heading would have seared the brain of an infantry Adjutant as with a red-hot iron. However, if a gunner can be got to form fours correctly, it is about all that is ever expected of him, so perhaps it did not matter much. Other forms of drill were the "manual exercise" and instructions in the use of the rifle, not of great importance in an arm where only ten rifles

are allowed per battery. However, every gunner is supposed to fire off a hand-gun at a target before his battery mobilizes, and very quaint are some of the methods employed. The great idea is to get the business over, it is so much time wasted that might be devoted to more useful things. Consequently from the word go, the air is full of flying bullets, some few of which, guided by a pitiful providence, contrive to find their way through the targets. Bored with the whole proceeding, I once walked up behind the lines of men, dutifully pulling triggers because they had been told to. One of the most industrious was holding his gun upside down, a method that resulted in rather wild shooting. Approaching him with care, I remonstrated with him, and received as a reply : "I don't hardly know how to use 'ee, I never had 'ee in my hands before." Why should he have ? He was the best ramming number I had, and one man, one job. Which verges on the vexed question of the arming of the artillery, too broad for discussion here.

But drills alone will not make a soldier. They inculcate the mechanical side of his profession, and they induce a sense of discipline, but there are other things, of even greater importance, to be learnt. A soldier must acquire the great art of self-reliance, must cultivate habits of neatness and cleanliness, must learn to take care of himself, before he can be of the slightest use in the field, however highly trained he may be technically. Frequent parades and inspections are of great assistance in this direction, with judicious praise for those men and barrack-rooms and kits that are the most presentable, and equally judicious blame for those that are slovenly. It

instils a spirit of competition, always, when kept within proper bounds, a most valuable help to training.

Route marching is good, the men enjoy it, and it can be utilized for many purposes besides sheer muscular exercise. The men can take their rations with them, and cook them as best they can by the roadside—a most valuable means of teaching the essential art of looking after oneself. During the halts, the more intelligent among them can be asked to describe what they have seen on the way, how they would direct others to follow them, and so forth. They can even be shown the map, and the main features of the country pointed out to them upon it. The spirit of observation is very feebly developed in most of us, and unless we are taught to enlarge it we miss many things of use and importance.

And last, not only as a resort upon days when the weather makes out-of-door work impossible, are what are known as lectures. There is so much that the recruit can only be taught by word of mouth, and it is far better to let him sit down comfortably in a warm room and smoke and generally make himself comfortable, than to stand him in rows on the barrack square. But let him once get the audience in a state of boredom, and the lecturer's usefulness is over. The men were eager to learn, eager to listen, but they would not endure a man who spouted technicalities in long paragraphs that he had learnt by heart from the training manual. Their chief delight was to stop him, by an artfully interposed question, in the middle of his most portentous period, knowing that he could not start again where he left off, but must laboriously begin at the beginning of his recitation and go through it all again. It is far better to put things into un-

scientific language, and illustrate them by homely analogies that the men will understand, risking the mathematical accuracy of what one is trying to impart. But lecturers are born not made, as most of us have at one time or another discovered to our sorrow.

In these earlier days, the average duration of a recruit's stay at the Depot was about a month, the actual time varying with supply and demand. Periodically, orders would come from the Record Office to send a draft of so many men, from twenty to a couple of hundred, to a certain place, either on a given day, about a week ahead, or as soon as possible. The procedure on these occasions was distinctly entertaining. All men who had over a month's service were shepherded into the great dining-hall. The Adjutant and a couple of clerks mounted an improvised stage, and the former read out numbers and names from the roll of the Depot. As the men answered, they were ticked off in the book, and passed along to a pen at the end of the room. "No. 52617 Green P.!" roars the Adjutant. No reply from the assembled multitude. "Company orderlies, look through your nominal rolls. Well, A Company?" "Not in my list, Sir," So on through the dozen or so companies. "Anybody know anything about No. 52671 Gunner Green P.?" Chorus of suggestions. "I believe he's in hospital, Sir." "We enlisted on the same day, but I haven't seen him since, Sir." A still small voice, despondently, "P'raps he's dead; died o' eatin' ration cheese." We cannot waste time over him now, so we go on with the roll-call. At last the requisite number are assembled, cautioned as to their destination and date of departure, and released from their

pen. In the office their documents are prepared, the Quartermaster issues them with everything necessary to their future welfare. And then at last, on the parade ground, the roll is called once more, the late-comers hustled into their places, and the order given to march. So the draft shoulder their kit-bags and march, cheering hoarsely, out of the barrack gates, whilst the staff stand and watch them with a momentary pang of regret, then turn to the pressing task of instructing others that they may take their place.

The classic stories that grew up round the Depot about this time were mostly based upon the fact that it was practically the only military establishment in the town, and the town itself was one peculiarly susceptible to warlike alarms and excursions. The consequence was that the recruits were frequently called upon to perform the duties of trained soldiers, and infantrymen at that, often with ludicrous results. For instance, for some months the Depot found every night an armed piquet to patrol a certain length of beach. Their orders were to prevent anybody from landing and to report at once any unusual occurrence. It was rather nerve-racking, for the recruits patrolled with loaded rifles, and they were told to shoot to hit if anybody failed to answer their challenge. Only one regrettable incident happened, which speaks volumes for the common sense and self-restraint of these very young soldiers, alone as they were in the depths of a winter night, when posts strangely take the form of midnight prowlers, and full of keenness to show their worth. It seems that a fisherman, in direct contravention of orders, endeavoured to land in a small boat. He was duly made a prisoner, and brought before the Officer Commanding the Depot as the Competent

Military Authority of the District. He proved the innocence of his intentions, and departed with a thankful heart, and with only one trifling grievance. He did not mind being shot at, he said ; he thought that was fairly safe, but he did object to being charged with fixed bayonets afterwards !

But the most onerous duty imposed upon the beach patrol was that of looking for evidences of secret signalling. There is no doubt that at that time the locality of the Depot was swarming with spies, men whose business it was to transmit to the enemy information that they collected from agents all over the country. Their method of action was to signal by various means to "Dutch Trawlers," vessels that were undoubtedly under enemy control, or possibly to submarines, that came close inshore during the night. Of course spy-fever was rampant here as everywhere during the early days, and ninety-nine per cent. of the signalling reports that came in were proved to be without foundation, or to have their origin in a lamp swinging to and fro in the wind. But the remaining one per cent. was authentic, and in co-operation with the Naval authorities the Beach Patrol spent many a weary hour in trying to discover its source. Against many failures may be set a few successes, and it is worthy of record that on the stormiest and coldest evenings, if a call for volunteers to augment the Beach Patrol were made, every man in the Depot fought for the privilege, even though they knew that the prospect was one of a night in the open, soaked through and chilled to the bone.

On the subject of spy-fever much might be said : tales of amateur detectives who brought in thrilling stories of lights flashing out to sea, of mysterious

men with German accents who slunk about the wharves, of strange sounds in empty houses, enough to fill a book. It is quite sufficient to say that spies undoubtedly there were ; perhaps when the history of the war comes to be written, the chapter devoted to espionage will surprise even the suspicious British Public. The men whom these amateurs so vainly hunted were professionals, trained to the last finest dexterity in their art, and the contest was hardly fair. The work that they accomplished, and that probably their successors are still accomplishing, was of invaluable use to the enemy, and its versatility was literally amazing. Nothing short of definite instances can, I am well aware, be really convincing, and of the evidences of secret communication it is even yet hardly wise to speak. The science and resource brought to bear upon this subject alone was astounding, common visual methods of signalling seem utterly clumsy and dilatory compared with the devices these men employed. But one fact, since it has been tacitly admitted in Parliament, may be stated. Between November 1914 and January 1915, three separate alarms were secretly conveyed to the Competent Military Authority. On each occasion, not only did the telegraphic and telephonic communications of the town with the outer world completely break down, owing to wires being mysteriously cut, but even private lines, for instance that connecting the Naval and Military Authorities, were rendered useless. And the significant fact is that these alarms, among a hundred others, were the only ones that were followed by any hostile development.

This is not the place in which to discuss the incidents of a phase of the war that cannot be detailed for many

years yet. The only reason for introducing the subject is to show that in the midst of the atmosphere of distrust and excitement which such incidents necessarily engendered, the month-old recruit, pure civilian as he had been, had yet acquired sufficient of the soldierly spirit to perform duties that would try the nerves of the oldest soldier trained to tact and level-headedness. The Beach Patrol proved the spirit that animates the New Armies as much or more than the hardest action in which they have ever been engaged.

About this period in the history of the Depot, the Welsh Invasion took place, with all its attendant horrors. To an utterly alien part of England poured in their hundreds a flood of recruits from South Wales, speaking an unknown tongue, with ideals and habits that no man could understand. Even the Adjutant was nonplussed, until in a fortunate moment he discovered a bombardier, of English birth, who had spent some years of his life in a remote village of Glamorganshire. With this man at his right hand, he interviewed the hardy Celt, learning the true pronunciation of such jaw-breaking names as Ynysybwl, Cwmaman, and Llanddawryth. His troubles were intensified by the fact that they seemed only to have half a dozen surnames between them, Jones, Evans, Lewis, and a few others. It seemed impossible to make them believe that a Regimental Number was anything but a joke, to be forgotten as soon as assigned, and the unhappy officer who endeavoured to pay twenty-two John Evans, to each of whom was due a different sum, when they had all long ago discarded all recollection of their numbers, had to determine which was which by long and searching cross-

examination. The difficulty was solved by sending them all off in one draft together, with a threat that if they forgot their numbers en route they should have them branded on their foreheads. I often wonder if the unfortunate C.O. who received them ever satisfactorily sorted them out.

They were all keen, these Welshmen, and once broken of a certain native craftiness that evinced itself in ingenious dodges to get off parades, they made splendid soldiers. I have had the honour of serving with many of them since, and for sheer hard work have found few to beat them. But certainly we had a little trouble with them at first. A few of them were very much addicted to drink, seemed to consider a thorough good indulgence part of the regular routine of the week-end. Nor could they understand why anybody should mind, as long as they did no damage. One of the worst offenders, Evan Evans by name, an excitable little man, whose never very intelligible English became utterly incomprehensible whenever he suffered under any emotion, was duly arraigned before the C.O. for being "drunk in Town about 9.30 P.M." No sooner did he find himself standing on the mat than he went off into a frenzy of tears and words, the latter duly interpreted by the before-mentioned Welsh Bombardier. "Yes," said the C.O., when the man had finished. "That's all very fine, but why were you drunk ?"

"Drunk !" exclaimed the man, in utter amazement at being asked such a puerile question. "Drunk ! Why, I get so ! "

It must have been for our especial benefit that the War Office circulated an urgent telegram to all training centres. It reached us soon after two, one-

stormy morning, with all the *éclat* of an urgent military message, such as was wont to warn us of the imminent arrival of the German Fleet, or of the Travelling Medical Officer to inspect our sanitary arrangements. It was torn open in the presence of a hastily summoned conclave of officers, tastefully arrayed in the most dazzling pyjamas. It read as follows : "The following Army Council Instruction is circulated for information and compliance. Begins. No obstacle is to be placed in the way of soldiers conversing in their native tongues, whether Irish, Gaelic, or Welsh. All words of command are, however, to be given in English as heretofore. Ends."

The authorities were at this time very fond of sending chatty telegrams at all sorts of odd hours. Another reached us one night as follows : "It is notified for information that in future the daily ration of pepper for prisoners of war will be one seventy-second in lieu of one eighty-fourth part of an ounce." And after that the perverse Hun declares that we attempt to starve him !

In the midst of a perpetual series of false alarms, we had occasionally experience of real hostile attempts. At about 7 A.M. on November 3, 1914, the German Battle Cruiser Flotilla attempted a bombardment of the coast between Yarmouth and Lowestoft, but owing to some strange miscalculation they underestimated the range, with the result that all their rounds, or nearly all, fell short. The early morning parade had just fallen in, and the Adjutant, anxious to interest and instruct the recruits, marched them all on to a mound from which he displayed to them what he took to be a naval battle far out to sea. At the critical moment of his demonstration, a heavy

shell fell into the sea a very few hundred yards from where they were standing, and a stampede for cover followed. Then ensued a strange scene. The Depot organized itself for the defence of the town, the more recently joined recruits were marched to a place of safety, the rest served out with rifles and ammunition and posted at points of strategic importance, where they waited breathlessly for the foe to advance, determined to sell their lives dearly.

The inhabitants treated the whole thing as a huge diversion ; they lined the front and cheered, beset us all with questions as to when the battle was to begin, and generally behaved as if the whole business were a show got up for their especial amusement. It was all over in half an hour, long before our carefully planned defensive measures could be put into action—not that it mattered much, for a few hundred recruits armed with rifles that they had never seen before would hardly have been a deterrent to a determined invasion or bombardment—but it caused a commotion in the quarters responsible for the defence of the coast that lasted for days. In this connexion two amusing incidents took place. Since the commencement of the war, a guard had been posted outside the town, for the purpose of examining the licences of such motorists as passed through. It was composed of Territorials, men who had had little or no previous military training, but who were filled to the teeth with martial ardour. The sergeant of the guard marshalled his half-dozen men on this eventful morning, and they determined to die like heroes, and in the meanwhile to make all military dispositions appropriate to the occasion. Somewhere at the back of the sergeant's brain hovered a vague

reminiscence of outposts and patrols, of challenges and countersigns, and to the best of his ability he put the greater part of Field Service Regulations, according to himself, into practice. About the middle of the morning, some hours after the excitement was all over, a certain General, commanding the troops at a village some miles away, was electrified by the news that the town had been bombarded, was now a charred heap of smoking ruins, and that the enemy had landed in overwhelming force. Without losing a moment, he got his command under arms, and proceeded with his staff in a magnificent car to reconnoitre. But when within a few miles of the town his furious progress was arrested by a determined little Territorial with a fixed bayonet, the warlike sergeant's outlying piquet, and under this terrifying escort he was led into the presence of the great man himself. Utterly undeterred by the presence of half a dozen brass hats, the latter sternly demanded the countersign as a preliminary to permission to proceed further. Of course there was no such thing in existence—I doubt if the sergeant quite knew what the word meant—and equally, of course, the General did not know it. Threats and entreaties were alike unavailing, and back the General had to go, somewhat comforted by the sight of the town in the distance, still standing, and apparently at peace.

The second incident was one of Gilbertian humour. A couple of days later, an infantry regiment, a newly raised battalion, entered the town displaying all the pride and panoply of war, with one notable exception. They had been rushed by forced marches from some distant centre for the defence of the locality, they were

part of a great army that was to guard Old England's shores against any hostile menace, but—they had not yet been issued with rifles !

On January 19, 1915, the Depot experienced the most serious alarm that it had hitherto known. We were all seated at dinner after a particularly peaceful day, there having been no warnings of any kind sent to us for at least a week, a most unusual thing. Suddenly, from the distance, came the sound of a sharp "bang." We were far too *blasé* by this time to worry much about such trifles. One conjectured it was a second bombardment, another that it was a dynamite outrage, yet a third that the recruits had mutinied, and having broken into the magazine were preparing to blow up the officers' mess. We were prepared for anything in those days. While we speculated idly, there was a second terrific roar, and a flash that lighted up the whole place. Upon this we dashed outside to find out what really was happening. It was pitch-dark, and nothing whatever could be seen. But overhead, seemingly right above us, was a buzzing as of a swarm of angry and enormous bees. We were utterly helpless, we had neither guns nor searchlights, and we watched in amazement as flash after flash, followed by deafening roars, lit up the town. It was the first Zeppelin raid that England experienced, and a most uncomfortable experience it was, until the bomb-dropping ceased and the buzzing died away in the distance. Then we set out to investigate the damage, which was not, after all, very considerable. Two killed and a few slightly injured, and an enormous amount of glass broken, enough to keep the local glaziers busy for a month. And more excitement for the citizens, who stood

about the streets in crowds and asked one another unanswerable questions.

But the whole countryside promptly got Zeppelins on the brain. The telephone ceased not by day or night, people would see hostile aircraft in every bright star and hear them in every passing motor-car, and would promptly ring us up to advise us of the fact. One or other of us slept in the telephone-room to receive excited messages from irascible old gentlemen who vowed that Zeppelins were hovering over their back gardens at two o'clock in the morning—what did we propose to do in the matter? At last some one suggested that a guard might be mounted in the room nightly, with a sentry always awake to answer the instrument and call the officer on duty. The Adjutant duly paraded his most cherished recruits, explained the position, and asked for volunteers for the duty. Several men at once fell out, and upon being interrogated, declared that they had been used to telephones from their cradles. The guard was therefore mounted, and the Adjutant sought his neglected bed, not without misgiving. He had hardly fallen into his beauty-sleep when he was awakened by a loud noise, and woke to find the whole guard trooping into his room, consternation on all their faces.

"What's the matter?" he asked in astonishment. They nudged one another, and finally their spokesman took courage. "We aren't a-goin' to stop in that room no longer, Sir!" he exclaimed.

"Not going to stop there! Why on earth not?"

"Cause it's 'aunted, Sir!"

"Haunted? What the devil are you talking about?"

" It's true, Sir. There ain't been nobdy in there but our four selves, yet somebody keeps ringing a blessed little bell, right inside the room, too. We all heard it, didn't we, mates ? "

But the Zeppelin raid brought reward, in the shape of a letter that reached us a few posts after the event. It bore the local post-mark, and was evidently written in the first heat of indignation that followed the unwonted disturbance of the writer's well-ordered life. I reproduce it exactly as it was written, merely cutting out one or two incomprehensible passages. It was addressed " To the Master of the Military Barracks," and ran as follows : " Dear sir, i hope that you will not think me inter fearing with your bissenes but i think some times a little peace of advice from an old wommen might be of some yuse. well for a long time i have been dreading these wicked Jarmens and there develish ways but dear sir i by & by see it my plan suckseed. as they know that they would bee seen and we shold try & have something ready for them well i think as we have severall churches & some very good look outs along the cost they wold be very conevenely for the men to get up in them with plenty of aramanshen (ammunition ?) and as they approched fier and with God help bring some of the wormen down. i must say if there is not some very great risk don now at once i am afraid we shall be under them rotten lot and as i here we are not prepered with airshipes to meet with them as they are so disceafell to come croning about in the dark at night i think we as a naishen must have some thing to halp to bring some of them down. i think that to have some of our own back it wold be a good thing to stachen some of our soldiers up at night becaus

they have not the honesty to come over in the daylight. Yours truly, Mrs E.E.W.C."

One of my proudest war relics is the original of this priceless letter.

A last story and the subject of the Depot must give place to other matters.

The local police were, perhaps, worse bitten with the epidemic spy-fever than anybody else in the town. We were inclined to laugh at them, but the arm of the law is long and patient, and who laughs last laughs best. They had their eyes upon their man, and could afford to bide their time, until in due course the hour struck. Then, upon the very morning when our declaration of war upon Turkey was announced, they proudly brought before the astonished C.O. the local Turkish Bath attendant, who promptly burst into tears and implored sufficient respite from death to allow of his saying good-bye to his wife and family. We calmed his fears as best we could, and made him as comfortable as possible in a spare cell of the guard-room while we wired for instructions as to his disposal. Upon interrogation he informed us that he had been born in Jerusalem some seventy years previously, had left the place at the age of five, and had lived in England ever since. During the next few days he became a sort of regimental pet, and could always be found sitting over the guard-room fire telling wholly imaginary stories of his native land to an appreciative audience of recruits. Finally, late one wet night, the order came for his release. The Adjutant hurried to him with the glad news, but upon its import being broken to him, he wept more copiously than before, and implored to be allowed to remain where he was, at least till the following

morning ! His request was granted, and ever since that day he has never failed to visit his captors daily, and to regale them with a series of Arabian Nights that seriously shake the credulity of even a Welsh recruit. They are not always quite drawing-room, his stories, the old reprobate !

CHAPTER III

THE DEVELOPMENT OF THE GUNNER

THE organization of new Armies required the provision of Artillery, both heavy and light, for their support, and perhaps the most wonderful side of the rapid improvisation of fighting strength was in the provision and training of batteries of heavy guns at short notice. The manufacture of the material was sufficiently wonderful, the design and construction of entirely new natures of ordnance under the stress of war, but even more worthy of praise was the manner in which personnel was provided to work them. Far be it from me to belittle the magnificent work of the Infantry training centres, but, after all, it must be conceded that the manufacture of a foot-soldier is easy compared with the task of training all the various types of specialists required for the working of a battery of Artillery. In order to understand how this training was carried out, a slight knowledge of the organization of the Royal Garrison Artillery is necessary.

And in the first place be it known that the Royal Garrison Artillery man every howitzer and gun heavier than field pieces, with the exception of a very few manned by the Royal Marine Artillery, and in addition all the anti-aircraft guns both at home and abroad, the Mounted Artillery, and a large proportion of

trench howitzers and mortars. This, of course, is over and above their original function of manning our Coast Defences all over the world. Before the war the R.G.A. consisted of about a hundred "companies" of Coast Defence Artillery, three "Siege" Batteries, armed with a six-inch howitzer designed nearly thirty years ago, or, in the case of one battery, with four strange cannon purchased by us from the Skoda works in Austria at the time of the South African War, half a dozen "Heavy" Batteries, armed with the sixty-pounder gun, and a dozen Mountain Batteries armed with the 2.75 Mountain Gun. There were, in addition, several R.G.A. Territorials, mostly Coast Defence, but a few of which were organized as Heavy Batteries, and were armed with either sixty-pounders or four-point-sevens, and a few local and Colonial Coast Defence Companies. The Siege and Heavy Batteries formed part of the original Expeditionary Force and had their definite place in its organization.

The Siege and Heavy Branches of the R.G.A. were regarded by the Coast Defence Branch, and indeed by most of the senior officers of the Regiment, as an appendage of very doubtful advantage. It was part of the great controversy between guns of position and guns on wheels which had rent the Regiment in twain a year before the South African War broke out. Previous to this, officers and men had served in the Royal Artillery, being posted to Field or Coast Defence Batteries as occasion demanded. But upon a hard and fast line being drawn between Field and Coast Defence, a strange blight settled down upon the latter branch. The causes for this lie too deep to be inquired into, but it may be said without fear of exceeding the truth that the dwellers in the concrete

forts almost ceased to be soldiers and became peculiar people, with their own ideals and almost their own religion. They set up a Holy Place, to which every good garrison gunner aspired to make a pilgrimage, whereupon he gained great prestige and a letter in front of his name in the Army List. Here were trained the High Priests of the regiment, who bore the imposing title of Instructors in Gunnery, and were regarded by their trembling devotees as far more than human and scarcely less than divine. These men, as is the invariable habit of a priesthood, invented a long and complicated ritual, which they alone understood, apparently compounded of an incomprehensible mixture of the elements of trigonometry and the letters of the Greek alphabet. This ritual they published in a strange cabalistic book, which, with the most perfect unconscious sarcasm, they labelled "secret."

The unfortunate Coast Defence Companies, who formed their unhappy followers, were kept far too busy endeavouring to comprehend the mystic formulæ for them ever to have the time or the inclination to study any other matters. The priesthood utterly discouraged any attempt on their part to experiment with guns on wheels, and the Heavy and Siege Batteries, who openly laughed at their authority, they did their utmost to suppress; indeed, the former barely escaped transference to the Field Artillery, and the latter total extinction. Cut off from participation in Manœuvres, fed only with the useless refinements of their own quasi-science, the Coast Defence lost all sight of what would be their true rôle in time of war, and lapsed into a condition of torpid self-complacency.

But even then there were voices crying in the

wilderness, had the priesthood allowed their co-religionists to listen to them. It was pointed out by the small minority that dared to withstand the current that war with Germany must some day come, and these men, who had read the great German Military authorities, inquired pertinently what part in the great drama the R.G.A. were to play? Were they to rest in the snug security of their concrete forts, waiting for some insane Naval Commander to break out of his asylum and, risking the overwhelming might of our Navy, to say nothing of certain destruction in our minefields, attack the particular part of the coast where they happened to be? Ships could not hope to engage Coast Defences with any chance of success, and no sane Admiral would attempt such a thing. The Dardanelles fiasco has proved the truth of their words, even when the overwhelming advantage of command of the sea lay with the ships. Even if you still consider this your proper rôle, continued the persecuted prophets, we have a further question for your solution. The prospective enemy relies upon artillery, heavier by far than anything we possess, for success in the field. The lessons of the Russo-Japanese War are not lost upon him. We shall be compelled to improvise something to compete with his ten and fifteen centimetre guns, his heavy howitzers from fifteen to twenty-eight centimetres. Who is to man these? The Field Artillery will be fully occupied with their own weapons, and who but you remain?

So gradually the Regiment tended to become still further subdivided. Officers and men who had once served in Heavy and Siege Batteries became imbued with ideas foreign to those held by the Coast Defence,

and usually contrived to remain in their own branch. Sometimes indeed, but rarely, one of the High Priests found himself commanding a battery of guns on wheels, upon which, after a few months of mental agony, he recanted and went over to the ranks of the heretics. But generally speaking the dwellers in the concrete forts held the field and their position became unassailable.

Consequently, in peace-time, the recruit, upon being drafted from the Depots, unless he had the good fortune to be posted at once to a Heavy or Siege Battery, became as it were a novice in a Coast Defence Monastery. He joined a Company at some fortress or other, and there, very leisurely, he learned the fine art of evading parades. Perhaps once a week he would drill upon the guns that constituted the fixed armament of the place. The remainder of his time would be spent in endless "fatigues" connected with the interior economy of the establishment of which he was a member. For a couple of months in the summer his Company would wake into a semblance of life, and almost fifty per cent. of its strength might be seen on parade, during which time it drilled feverishly, in preparation for the ordeal that was to come. And at last, at the close of this unduly strenuous time, a junta of the priests would descend upon it, clad in all the fearsome insignia of their office, slide-rules, tables of logarithms, and the like, the Sacred Book in their hands, and, under conditions as unlike war as could possibly be imagined, the unfortunate Company would carry out its annual practice. This farce over, the priests, if properly propitiated with the smoke of sacrifice and the slavish adherence to their ritual, would proclaim the Company first

class and would deign to accept the homage of its members. But dare a Company Commander be so rash as to substitute common sense for the ritual of the book, dare he take no heed of the particular fads of the priest who watched his every action with an unsleeping eye, woe betide the unfortunate Company, for it was damned for ever.

This ordeal over, the Company lapsed into supineness for the remainder of the year, and the young soldier returned to his fatigues, or was drafted to a Company abroad. Here things were rather livelier as a rule, and a certain amount of useful training was accomplished. But by this time the young soldier had probably learnt the noble art of finding a soft job for himself, and with luck had developed into a "district gunner." The "district gunner" was a man whose duty was to keep a certain definite part of the guns and stores clean and in proper order, and his characteristics were an infinite capacity for beer and a correspondingly microscopic capacity for work. What more enviable prospect could have been held out before the eyes of a man whose whole teaching was surrounded by sloth and the discouragement of any soldierly qualities ?

But none the less the average garrison gunner was a fine type, due entirely to his own innate excellence, for, with the exception of a very few Companies, his training was not such as to encourage a healthy life. He was big and burly, the standard of enlistment ensured that, and though usually lazy, was still well disciplined, owing to the length of his term of service with the colours. His N.C.O.'s were splendid ; to their physique they added considerable educational attainments, for such are necessary to understand the

essential first principles of gunnery. And even the ritual of the priests was powerless to stultify the brains of men who were interested in their work.

So upon this strangely beset division of a Regiment, for the Royal Artillery is yet one Regiment and the R.G.A. but one section of it, came the disturbing hand of war. The Heavy and Siege Batteries proceeded overseas almost immediately, and with their arrival, or before it, the lessons of Namur, Liége, Lille, and a dozen other fortresses proved the truth of the words of the despised prophets. The enemy had entirely neglected his field artillery in favour of heavier weapons ; to this day the 77 millimetre field gun he employs is one of 96 *neuer Art*, in other words, of the new pattern devised in 1896, and scarcely improved since. The French and ourselves had pinned our faith on field artillery, the "soixantequinze" and eighteen-pounder are immensely superior to the German 77 millimetre gun. But our heavy artillery was hopelessly obsolete, with the possible exception of our sixty-pounder gun, which came into use about ten years ago. In desperate haste we prepared to meet the menace of the hostile heavy artillery. It is believed that the Central Powers possessed over a thousand batteries of guns and howitzers of 5.9 inch calibre and over. We had six, and six batteries of sixty-pounder guns, the French perhaps a couple of dozen more, and the Russians perhaps a few more still.

The consternation on our part, due entirely to lack of foresight and stupidity, for the Germans had never made any secret of their theories, would have been amusing had it not been so serious. It was seriously debated whether certain muzzle-loading howitzers of

8 inch calibre, dating from about 1870, should be sent out. Guns were hastily removed from Coast Defences, mounted on improvised carriages and dispatched to the front. We possessed five heavy howitzers, four of them bought from Skoda many years ago, whose accuracy was such that those who practised with them at Rhyader used to say that they counted it a whole hit if they hit Radnorshire, and half a hit if they hit Wales, and the fifth a modern weapon, completed just before the war by a private firm, and upon the point of being experimented with when war broke out. The former weapons were left at home, as being likely to be far more dangerous to friend than to foe, the latter was sent to the front in charge of a most capable officer, who had served the greater part of his time in a Siege Battery.

And, of course, the personnel for these improvised batteries had to be found by the Coast Defence Companies. Any of their strength who had served in Heavy or Siege were hastily combed out, but these, owing to the many years of dominion of the priesthood, were very few. And still the call upon the Coast Defence continued, old six-inch howitzers were raked out from every corner of the world, where they had formed part of the movable armament of fortresses and defended ports, 4.7 inch guns were dismounted and placed upon rapidly constructed carriages, orders were placed with the great armament firms for great numbers of heavy ordnance. Meanwhile the Navy swept the seas, the great fortresses remained unmolested. Abroad, the *Emden*, *Karlsruhe*, *Königsburg*, and one or two others kept the defended ports from falling into a state of hopeless apathy ; at home, one defended port alone, Hartlepool, had the

chance of seeing the shells of its entirely decorative armament bounce off the sides of hostile battle-cruisers. Excited subalterns would open fire on floating biscuit-tins, plausibly mistaking them for the periscopes of submarines. But beyond these incidents the Coast Defence section of the R.G.A. might have been at peace.

Slowly, as the new batteries formed from the personnel of these unemployed, a new spirit awoke. The very priests, torn from their contemplation of diviner things and sent out to the front in command of the heretical guns on wheels, returned with strange new theories, speaking almost contemptuously of the Sacred Book and its bastard mathematics. Worse, the Holy Place fell into disrepute, no more the long trains of pilgrims worshipped at the shrines it contained. Men began to realize that the proper function of a gun is to search out the enemy, not to sit in majesty and wait for the enemy to come and be fired at. The word "Garrison" became anathema, at it should always have been. "Garrison" presupposes a sort of supine defensive, the waiting in comfort of an attack that is never likely to come. One's maiden aunt comforted herself with the word, one was quite safe, the Royal Garrison Artillery did not go to war. Coast Defence Companies were gradually depleted of their regular members, territorials and recruits taking their places. At last the R.G.A., by force of circumstances rather than by its own initiative, came into its own. To-day it would probably be a not inaccurate estimate to count the number of R.G.A. Heavy and Siege Batteries in the field as a couple of hundred, without including anti-aircraft batteries and trench mortars and howitzers,

or the many ammunition columns, part of whose personnel is found by the R.G.A. Such is the story of a great awakening.

The R.G.A. having now transformed itself from the most supine unit in the British Army into possibly the most important—for some say that heavy artillery will win this war, an exaggeration, for no arm but infantry can ever win even a single battle, although heavy artillery may be a decisive factor—the wartime training of the young soldier is, of course, entirely different from what it was in peace. The recruit, after a sojourn at the Depots which varies in length according to the laws of supply and demand, is drafted away, either to one of the Siege or Heavy Schools that have sprung up, or to one of the Coast Defence Fortresses. The great problem of the training of the young soldier, as he has now become, commences at this stage. It lies in the fact that practically no dozen gunners in a battery have exactly the same duties to perform. Besides the men who work the guns, there must be almost an equal number trained as "specialists," as they are called, that is to say, telephonists, signallers, observers, plotters, Battery Commanders' assistants, linesmen, and, in the case of horsed batteries, drivers. The young soldier is watched for the display of any special aptitude he may possess, and if he seems likely to make a specialist, he is dispatched to one of the Schools to undergo a course of training in the particular branch of knowledge that he favours. If he appears to be fitted to become a gun-number, he remains for a time at a Coast Defence Fortress, where he learns the elementary principles that apply to all guns, and acquires a certain experience of

the general duties of a gunner in a battery. The specialists' courses at the Schools consist of lectures, practical demonstration, and practice with the various instruments employed, the instruction at the fortresses of lectures and daily drilling upon whatever guns they possess.

Periodically, at the Coast Defence Fortresses, the order is received to form, say, a Siege Battery. An officer of the rank of major is given the command of the new battery, and proceeds to the Fortress to effect its formation. A captain and four subalterns are posted to him by the department of the Director of Personal Services, and a Battery Sergeant-Major and Battery Quartermaster-Sergeant by the Record Office. The captain is usually a newly promoted subaltern who has had previous service in a Siege Battery at the Front; the subalterns are either temporary officers or officers who have just been commissioned from Woolwich, the Territorials, or the ranks, all of them having had a course at one of the Siege Schools, and the two staff sergeants are usually newly promoted sergeants. With this nucleus, the O.C. sets about finding the remainder of his battery. The young soldiers, and, of course, any old soldiers that remain, or have returned to the colours from medical leave, of the Fortress are paraded for his inspection, and from them he selects as many as he requires. In the same way he searches for non-commissioned officers, until of these he has obtained two-thirds of his establishment. The remaining third he obtains in the course of his battery training by promotion from the ranks of his own battery. A certain number of specialists are dispatched to him from one of the Siege Schools.



As soon as the battery is complete, and there is a vacancy for it, it proceeds to one of the training centres which are attached to the Siege Schools. Here guns and instruments for drill are allotted to it, and here the C.O. moulds his battery into shape, organizing it as he requires, training it in the duties that it will have to perform in the field. It is a strenuous business, for the greater part of the personnel are as yet quite inexperienced in the peculiar duties of the siege gunner, and time is very scarce. All hands must work with a will, the gun-numbers must be drilled till each man can perform his duties with speed and unvarying accuracy in daylight as in darkness, they must be sorted out into the places that each man is most suited to fill, those with the keenest and most exact fingers are selected as gun-layers, those with the brawnliest muscles as the loaders of the heavy shell, and so on. The specialists must be exercised in their own particular arts night and day, the officers must learn to study maps and the observation of the country, the art of commanding their sections, the method of carrying out a series, and a hundred other things. At last, when it seems to the distracted C.O. that the battery will require years of preparation before it can be trusted with a single toy cannon, let alone four service howitzers, the dreaded order comes, and a further move is made, this time to a practice camp. Here survive the last lingering embers of the once all-powerful priesthood, but utterly changed in theory from its pre-war tyranny. Now the priests are still instructors in gunnery, certainly, but they are men who have ably and honourably commanded Siege Batteries at the Front themselves, they have cast their exact

mathematics, their logarithm tables, their Greek alphabet, into the long lines of trenches, and they preach a new testament of common sense and efficiency. They still retain their particular foibles ; there must obviously be many ways, all equally good, of performing certain details, and each man is entitled to his own methods. The trouble is, that if that man happens to be an Instructor in Gunnery, he is in a position to impose his own particular method upon everybody else, which is detrimental to originality, from which springs constant improvement.

At the practice camp, the ordeal of the battery commences. A target is indicated, and the Battery Commander makes his own dispositions to engage it. He is given guns, which he places as seems best to him within certain defined limits, he selects his observation post, and finally, in fear and trembling, surrounded on all sides by watchful critics, he fires his allotted number of rounds, praying that the earth may open and swallow him up before the battery commits one of the thousand crimes that his vivid imagination depicts. And then, the practice over, he hastily returns and surveys his men, finding to his astonishment that none have maimed themselves for life by their clumsiness, that everybody has somehow tumbled into his right place, that in the opinion of an unprejudiced onlooker the shoot was not so very bad after all. But the worst is still before him, and the next morning the dreaded ordeal takes place. The big lecture-room slowly fills with an imposing array of senior officers, of unfortunates like himself, of many others who attend for instruction. And there, before this awe-inspiring audience,

the priests rise up and mercilessly criticize every detail. The Battery Commander's own shortcomings are dilated upon, his neglect of the rules of ranging, his incorrectly framed orders. The section commanders are next torn to pieces, their lines of fire pronounced hopeless, their direction of their sections stigmatized as lacking in all that should characterize the good subaltern. The specialists, the detachments, all are dealt with in turn, until it seems as if there can be no merit left in the whole battery. But finally the chief priest declares that the practice was not so bad on the whole, and the battery breathes once more. The same procedure is repeated half a dozen times, practice and subsequent criticism, and the stay at the practice camp is over.

The next move is to the mobilization station. Here the battery receives its guns and the stores necessary for their service. The modern Siege Battery is composed of four guns and a varying number of motor-lorries, four of which are of special construction and are used for hauling the guns, the remainder ordinary three-ton lorries, in which the stores and ammunition are carried. All these various things have to be collected together when the battery is ordered to mobilize, and a fine business it is. So many things can happen, all the stores may be accumulated, the lorries packed, the ammunition drawn, and only the guns be wanting, and these latter be delivered by the makers after many weeks of weary waiting, during which everybody curses everybody else, the A.S.C. company that manages the lorries more than any one. Or perhaps the reverse happens, the battery gets everything together with unexpected rapidity,

and then has to wait for the A.S.C. company with its lorries. Or, as happened to one battery to which I had the honour of belonging, everything is ready but some small detail that is practically essential to the fighting of the guns. After much waiting and frantic telegraphing, one is told to get over to the other side, and one will find the missing details at the Base. The Base, as soon as one arrives, repudiates all intention of supplying any stores of this nature, and assures one that the Ordnance Officer at the Advanced Base is simply perishing with eagerness to supply all one's deficiencies. Somewhat reassured, one proceeds to the Advanced Base, and boldly inquires for the whereabouts of the Ordnance Officer. Him at last one discovers, seated forlorn in an almost empty tent, wherein are piled two or three bundles of clothing and a solitary case of boots. "Telescopes sighting?" he says inquiringly. "Yes, let me see, Section XXIV, aren't they? Yes, certainly, I'll indent for them at once." "Indent for them!" one replies in dismay, "Why, where have you got to get them from?" "From the Base, of course," he says patiently, "and if they haven't got them, which I don't for a moment suppose they have, from England." So one's hopes are dashed, and one fights as best one can for three months or so without them. But, after all, adaptability is one of the great virtues of the gunner, he has learnt it in the long years of starving of his Arm.

One way or another, mobilization is complete at last, the telegram arrives, ordering the battery to proceed overseas on a certain date, and wild delirious joy reigns. Then the last final move, the em-

barkation, the journey across the sea, the first landing in France, which seems another world to the France one knew in peace-time, and at last the Battery has attained to the goal of its formation, and is become a unit of the British Expeditionary Force.

CHAPTER IV

FROM HOME TO THE FRONT

THE period that intervenes between the time that a Battery leaves its home station and the time that it takes up its first position in action is full of excitement. It is quite natural that this should be so; by far the greater part of its members have never seen war, and are, in consequence, all eagerness to discover what it looks like. Besides, the whole business is a new experience, all sorts of things are going to happen that have never happened to one before, one is about to get an insight into the vast machinery that transports men in their millions, material in its thousands of tons, with the most marvellous efficiency that the world has ever known. And behind it all is the feeling that the drudgery of training is over, the bustle of preparation, the anxieties of completing equipment; and that before one lie all the exploits of which one knows the Battery is capable.

In our own case, we got orders to move exactly twenty hours before the move was to take place. We were a brigade of two motor-transport Siege Batteries, mobilized for service at a large garrison town. Of course we had been waiting for the order for some two or three days, we were as ready as we were ever likely to be, it only remained to put the last finishing-touches to our preparations, to hook

the guns on to the lorries that towed them, and we could be off. Our orders were to march by road to our port of embarkation, some thirty miles distant, to stay there the night, and to embark next day. Very early in the morning we got to work, each last store was carefully packed in its proper corner, each man told off to the place he was to occupy in the lorries. It so happened that our store was a disused brewery in a maze of narrow streets, and the fun of bringing up lorry after lorry that it might be packed, or that it might have its gun fixed to it, defies description. However, they were all ready at last, marshalled in a great square, and the men sent off to get their dinners.

The actual departure was a scene that will dwell for ever in the memories of those who witnessed it, and they were many. The whole town, official and unofficial, turned out to see the huge procession of some seventy lorries, with attendant cars and motor-bicycles, file out of the gates and proceed down the main street of the town. It was an inspiring sight, the cheering populace, the flags waved in our honour, the band trying its utmost to drown the din of the lorries. But it had its pathetic side as well. The men were mostly old soldiers who had brought their wives and families to the town, and the farewells were heartrending. How many had made the last sacred parting at home that morning, yet how many a loving heart had been unable to resist the temptation to come and take one last look at all it possessed in the world as it went away upon the unknown trail ! Yet they were brave to the last, one hurried hand-grip, the quick thrusting into a pocket of one final gift of love, wrapped up so carefully ; one last whispered

word, wherein the sob was choked back so that he might not hear, was all they allowed themselves, the last dear token. And then the great procession swept by, magnified through the mist of their tears till it seemed a dreadful convoy of huge black wagons of the dead, parting their beloved ones from them for ever, cutting their hearts in twain to the sound of the awful roaring of grim necessity. War has its sorrows, its pathos, but surely none so poignant as this, the tragedy of countless hearts upon a background of impressive pomp and display.

The march to the port from which we were to sail took place without any particular incident. The inhabitants of the villages through which we passed appeared to harbour some doubt in their minds as to whether the gigantic procession was really composed of soldiers, or was a mammoth travelling circus, which it resembled perfectly. We covered a good mile of road, and the dust we set up, even at the moderate speed of some six or seven miles an hour, was extraordinary. The rearmost lorries got all the benefit of it, and the appearance of them and their loads, both human and otherwise, when they reached the end of their journey was something to be remembered.

We took six hours to cover thirty miles, including halts, not a bad performance for our first expedition, and arrived at the "Rest Camp" at which we were to pass the night about dusk. Now Rest Camps are so called because under no possible combination of circumstances is there any possibility of any one obtaining any rest in them. One's stay there is fortunately very short, and the few hours of one's sojourn are amply filled by the many details that have

to be attended to during a pause in movement. Nor is this all, the authorities in charge of the camp do their best to harass one, presumably because they have nothing better to do. They demand nominal rolls, require all manner of forms to be filled up, and generally behave with the greatest possible measure of obstruction. But in this particular case, the advance party that we had sent on ahead to make arrangements had found nobody in authority, and had commandeered huts for the men and found billets for the officers as best they could. It worked out all right, we left a couple of officers in what purported to be the Mess, there was no room for more, and the rest of us wandered off to a private hotel that we had been directed to. Here we spent a very comfortable few hours, and here I had the last real bath that was to be mine for many a long day. We secured a very excellent dinner and an early breakfast next morning, after which we walked up to rejoin the Battery. They too, had fared well, but when we found the two officers who had been left at the Mess, and whom we had been rather inclined to envy, a very different tale awaited us. It seems that the Mess, despite its grandiloquent title, did not provide meals, and they had been left in a strange town about ten o'clock at night, to find something to eat as best they could. They did not know where our haven of refuge was, and after several attempts to find it, gave the attempt up in despair. Finally, after many disappointments, they managed to find a fried-fish shop, and made a meal which they described as satisfying off fish and chips. Breakfast they had not yet had, and it being now nearly time to start for the docks, breakfast that day they did not get.

Early that morning the procession re-formed, and rumbled its way along the streets to the quay. Once inside the dock gates everything worked with the precision of a machine. Three ships were loading that day, and were embarking our two batteries and a certain number of men and stores, besides ourselves. We were told off, so many to each vessel, the stores to one, the guns and lorries to another. One big Blue Funnel cargo boat swallowed up the latter almost at a gulp, and found room for one Battery complete as well. The remainder were packed on to another big vessel and a smaller one, and by early afternoon we were all aboard. It was a wonderful sight to see the heavy lorries and their contents, weighing perhaps seven or eight tons in all, picked up by the silent hydraulic cranes and lowered into the holds as if they had been so many toys. There was no bustle and confusion, we were not even called upon to help in any way. The stevedores took charge of us, and carried out their duties with a speed that was astonishing.

At six o'clock we cast off from the wharf, and our travels had fairly begun. The big steamer swung leisurely down towards the open sea, and I, who knew every inch of the waters she was travelling, every house and field on shore, felt a curious wonder as to when I should ever see them again. War as yet seemed so far off, it was quite impossible to realize that there was a very excellent chance of my never seeing them again, that men who had passed out of harbour with perhaps the same thoughts that mine then were, lay buried in the land to which we were journeying. Gradually the panorama slipped by, lit by the rays of the setting sun, until it became too

dark for me to recognize its details any longer. Then I turned away to the duties that awaited me, which were many in number.

A packet of papers had been thrust into the hands of our Major, as Officer Commanding the Troops on board, containing amongst other things a list of duties to be performed by him and another list of those to be performed by a second officer, who was to be appointed Ship's Adjutant. The latter appointment had fallen upon me, and I now spent a very happy hour or so reading long strings of regulations about smoking and lights and general behaviour on board ship to the troops assembled on the main deck, telling them off into boats, issuing them with life-belts, and other such necessary precautions. It was rather a farce, I thought at the time ; if we had struck a mine or been submarine'd we could not possibly have launched all the boats, and I fancied, by the look of the life-belts, that they would prove pretty useless as life-savers. However, such were the regulations, and so I acted.

Dinner was the next function on board, and a very good dinner it was. She was not a passenger boat, but the ship's officers very kindly gave us the hospitality of their saloon, and an excellent meal we all made. The sea was as calm as a mill-pond, and the big vessel never so much as shook throughout the whole passage, which improved some of our appetites. Dinner over, the Adjutant posted a guard and sentries, told off the subalterns as officers of the watch in rotation, and went to bed, that is to say, shared a small cabin with the A.S.C. subaltern in charge of the lorries. We were both well over six feet, and the cabin had apparently been designed for one man of

five feet nothing, so we were a trifle cramped. I had the bunk, he the sofa, our feet being entangled in the little space that remained. And when I woke and dressed, we were steaming into port, having made a magnificent passage.

I knew that port of old, and at first sight war did not seem to have altered it much. But on closer inspection I saw the vast differences that actually existed. Where the merry crowds in blue jerseys and *sabots* had laboured, were the men in khaki who had taken their places. The great warehouses and *hangars* were no longer piled with merchandise destined for all the countries to which great lines of steamers had plied; they now bore familiar signs such as "Army Ordnance Store D, Groups III to V," "Military Landing Officer," and the like. Staff Officers had replaced the old officials with gold-laced caps, the *gendarme* had given place to the Military Policeman. Things were certainly not as they had been in peace-time.

The first person who boarded us was a Military Landing Officer, obviously peevish at having had to get up so early, who wanted to know why the devil we hadn't started to disembark, where our nominal roll was, and, generally, what we meant by venturing to exist at all. We replied humbly that our instructions forbade us under pain of death to move until the light of his august presence should shine upon us, that our nominal roll was his whenever he chose to make it so, and, as for the last question, that we hardly knew ourselves, and were very sorry about it. He left us with another enormous bundle of instructions, and a curt suggestion that we should get on with it.

We found that we were to proceed to another Rest Camp, and our spirits fell accordingly. Also breakfast seemed a rather nebulous prospect, the ship was not certain of her ability to provide it, and we should never get the guns and lorries unloaded in time to get it at the Rest Camp. So it was decided that the two unfortunates who had lost their breakfast the morning before should start off at once with the greater part of the men, leaving the rest of us to follow later with the guns and lorries. So off they went, smiling happily, while we set to work getting the ship clean and tidy, and superintending the unloading process; comforting ourselves with the thought of the lunch that awaited us somewhere in the dim future. I knew the town, and the Major and I determined to make our way to a little restaurant I knew of, and enjoy ourselves for an hour. But we were more fortunate than we thought. The Chief Steward discovered a ham in some remote corner of the ship, and off this and biscuits we made a very respectable meal.

At last the unloading was complete, and, dispatching the two officers who were still with us up to the Rest Camp with the few remaining men and the material of the Battery, the Major and I went off to our late *déjeuner*. We found our goal, and a very excellent meal it was, reminiscent of Continental days in peace-time that we had once known. We soothed our nerves with a cup of coffee, and then made our way up to the Camp, feeling in a mood of perfect contentment and of satisfaction with the world at large. But we were greeted by our companions in anything but the same frame of mind. It seems that the Camp Mess was run by some outside agency,

who had laid down drastic laws as to the times of meals, which were as those of the Medes and Persians and altered not. The two we had sent up to breakfast had arrived five minutes late for that meal, and had therefore to go without for the second morning in succession, and the same fate had befallen the two we had sent up to lunch. However, said the optimists, it will be tea-time at half-past four, they tell us, and it is very nearly that now.

In due course we wandered over to the mess-tent, the unfortunates prepared to have their revenge upon the food that should be set before them. We were met at the door by a waiter, who told us we could not have tea that afternoon, as the Commandant was holding a ladies' tea-party ! Now Rest Camps must necessarily be uncomfortable; it is impossible to arrange everything in a place through which troops are always passing in the same way as they can be arranged in a permanent camp. But, surely, rules rigidly fixing the hours of meals, and the holding of ladies' tea-parties to the exclusion of others who have a right to use the place, are not advisable in the case of a Mess where officers are bound to arrive and depart at any hour of the day or night. The men were well provided for, there was no ground for complaint on that score; they carried their rations with them, and every facility was given them to cook them at any time. But the state of the Officers' Mess looks suspiciously as if the Staff had the ordering of it.

The Battery was duly paraded next morning for inspection by the Commandant ; why, it is difficult to imagine, for he had no word to say in its destinies. And that morning orders came to us for our further move. The guns were to go off by train that very

evening, the personnel and lorries to follow by road the next day. They would meet one another again at their destination, which was as yet shrouded in mystery. Enough that we were to start, there existed people whose duty it was to guide us on our unknown way.

I, as representative of our Battery, and another officer, as representative of his, with twenty men from each Battery, were detailed to go with the guns, and we had one of the most deliberate and amusing journeys that it is possible to make. We entrained at the station at about 8 P.M. the guns having been lashed on to the trucks previously, and at about 11 P.M., the train was made up and we started. We had a first-class carriage to ourselves, the men had a couple of covered-in goods wagons between them, far more comfortable to sleep in than carriages with seats, on the floors of which they laid down their blankets and were soon asleep. We started to do likewise, fondly imagining that the train would in due time land us at our mysterious destination. But not it. By 4 A.M., we having then covered fifty miles, it jogged into a terminus and there stopped. I put my head out of the window and inquired of a Railway Staff Officer who was wandering about when it was going on again. "Five-thirty this evening," he replied. "You'll have to get out of this train though, very shortly. It isn't going on any farther."

We disembarked, not in the best of tempers. The terminus was an open goods yard, with no accommodation of any kind for men to wait in. However, the weather was fine, and we camped in the open. And here let me say a word for a wonderful institution

which appeared to us to drop out of heaven. Early as it was, a party of English ladies arrived from nowhere and proceeded to open a canteen in one of the sheds of that deserted yard, wherein they supplied hot water and washing accommodation free, and food at such ridiculous prices that could not possibly have covered its cost. I do not know who is responsible for this arrangement, but I hope that they, and especially the ladies who got out of bed at about four that morning to spend hours ministering to our wants, will benefit from the fervent good wishes of two officers and forty men.

We left the men very comfortably installed in this haven of refuge, and later on in the morning went off into the town, where we had *déjeuner*. The town itself was about equally divided between French and English, mixing perfectly happily, and talking a sort of nondescript language composed of a little of both their native tongues. We returned for tea to our excellent hostesses, and then began to see about our expected departure at 5.30. We soon found that we were not to have the train to ourselves on this occasion. Officers alone, officers with parties of men, odd men without officers, of all ranks and every regiment, were beginning to collect and to arrange themselves in the long train that was now standing, with our guns in the centre, at one side of the yard. But travelling by train over there is not the simple matter that it is in more peaceful countries. There are Station Staff Officers, Railway Transport Officers, Military Forwarding Officers, and a host of others to placate before you have a chance of getting anywhere, and every one of them requires a different return filled up and signed. However, we got our orders

and accommodation allotted to us, and took our seats expectantly. Then a new personage arrived, who announced that he was the Train Conducting Officer in charge of the train. But he reckoned without his host. A certain fiery Senior Officer, as soon as he received this information, vowed in an access of choler that no one should take charge of any train in which he was to travel but himself. The T.C.O. told him that he was delighted to be relieved of the responsibility, and forthwith retired to his lair. But the Senior Officer paraded every officer and man on board, and in one impassioned speech informed us that we were about to travel into the war zone, and that we must take measures for the due protection of the train. To my annoyance, he selected me as his second in command, as I happened to be in charge of the largest party of men, and issued me with several sheets of utterly illegible orders, hastily written in pencil on the backs of envelopes. I never knew what three-quarters of them were, but the chief one he repeated to me by word of mouth. I was to take command of the rear of the train, and place ten men, armed to the teeth, in the last carriage. He would do the same for the front of the train. Wherever we stopped, these men were to get out and patrol the train, or the platform, or the line, I forget which. I suggested that if we were attacked we had better man the guns and die like good gunners. I omitted to tell him we had no ammunition for them. He quite agreed, and said it was a very good idea. The train, I need hardly say, was not going within thirty miles of the war.

We stopped many times, and while it was light our guards duly fell out. As soon as it was too dark

for my commander to inspect my actions, I told my people to go to sleep, and not worry any more. But he kept the game up all night, and thereby hung the funniest incident of the journey. The train pulled up at a little wayside station—it did so at most of them, and travelled exactly twelve miles an hour between times—and out tumbled his forward guard. No sooner had the men got out than the train started again, leaving them on the platform. The Senior Officer leant his head out of the window and called upon the engine-driver to go back and fetch them, in the best English at his command. Not unnaturally the engine-driver did not hear him, or if he did thought that it was only another of these mad Englishmen. Finally he persuaded some intrepid spirit to walk along the footboard and explain the situation. By this time the guard, who had been running along the permanent way after the train, managed to catch it up, and all was well once more. In the early hours of the morning the train split up, and we and our Commander parted company, for which I was profoundly grateful.

We reached our destination about noon, it having been divulged to us as a great secret during our journey up whither we were bound. The Station Staff Officer met us without enthusiasm. "You're the Siege Batteries we got notice of, I suppose?" he said.

"Part of them," I replied. "We've got the guns, at all events."

"Well, we'll run them into the goods shed, and you can detrain them, if you will. What about your horses? You'll want them to get away with."

"Horses?" I exclaimed. "We haven't got such a thing in the world. We've got plenty of lorries wandering about France somewhere."

He seemed utterly nonplussed. "But you and your guns have got to be at a place five miles from here by this evening!" he said. "How are you going to manage?"

We arranged for the loan of four lorries, detrained our guns, and soon had the first four tied on behind them. And so, a sadly diminished procession, we proceeded on our way across France. We were to await the arrival of the rest of the Batteries with the lorries at a little country village, consisting of a church, a few farm-houses, and two or three *estaminets*. I went forward with the first four guns, leaving my companion to follow with the other four. Of our journey I can hardly speak without emotion. I realized that once we had arrived at this little spot we should be isolated from the rest of the world, with no opportunity of getting rations out to us, so I indented for and drew a three days' supply, with which we loaded one of the lorries, and off we went. I had heard that the roads were bad, but I never imagined that they were anything like they were. My previous experience of *pavé* had been in peace-time, when it was fairly regular. But now constant heavy traffic had cut it to pieces, and there were great holes, into which, no matter how carefully we drove, the guns rolled and bumped. The poor old things had been designed many years before to be drawn by horses over good roads, and I trembled for the safety of their wheels and fittings. Further, our extemporized couplings were not the most suitable things in the world for such work, being merely a few odd bits of wire rope intended for a very different purpose. How often we stopped to repair them or to pick up some part of the gun stores that had jolted off I do not

know. At last, however, the first batch arrived and was duly packed under some convenient elm-trees, the lorries left again, and in a couple of hours or so the whole eight guns were neatly ranged in line, and our task was over.

But it still lay before me to find billets, not only for the men that I had with me, but for the whole brigade who might shortly be expected. The process of finding billets is an interesting one. Each of these little villages has its mayor, usually one of the local farmers, and he in his turn has his secretary, who is nearly always the village schoolmaster, as being the most suitable person to undertake clerical work of any kind. One applies to them, and they prepare a list of people with the number of officers and men that each can accommodate against their names. Armed with this list, one calls on the various people, and signifies one's intention of taking their barns, for barns and straw are all that one can claim as house-room. One subsequently signs a paper that one has done so, for which on presentation to the mayor they receive a small sum per man accommodated. I duly made my way to the mayor's secretary and stated my requirements. He was a noble-looking old man, wearing great round spectacles, having no word of English. But he was intent upon doing all he could to help me, although a great misfortune had befallen him. There were troops already in the village, and they had committed the unpardonable crime of taking their billeting upon themselves, and not consulting him in the matter, so that he had no idea of which billets were occupied and which were not. However, they were going in the morning, and if I could arrange for myself till then—I could, and did.

By dint of walking round the village and talking to all and sundry that I came across, I found a very convenient barn that would house our detachment, and a room in a very clean cottage for ourselves. And when the piratical regiment had moved on, I arranged for the remainder of the Brigade with all due ceremony.

We spent two or three days in this little place, leading an almost Arcadian existence. We could do nothing but sit and wait, and this we did, out in the open amidst the corn-sheaves, for it was harvest-time and glorious weather at that. We lived on the rations we had brought with us and what the village could produce, and at the close of the day slept the sleep of the just. I think it was with almost a faint tinge of regret that we heard the familiar roar, and rose to our feet one perfect afternoon to see a column of lorries descending the gentle hill that led to our happy retreat. For ours had been one last glimpse of peace before the clamour of war, a peace, however, that held gentle reminders of what was before us, for even here about sunset came the distant sound of guns to tell us of a yet unknown world.

The Brigade having arrived, all was activity for a couple of days. The quiet country lanes we had known echoed to the vulgar panting of the vile motor-bicycle, the quiet village rang to the tune of the incomprehensibly inharmonious songs in which the English ear delights.

Then came a further move, this time a march by the whole Brigade complete, some twenty miles along *pavé* the whole way, through the edge of a coal and iron country. On this occasion we had the proper couplings for the guns, and we travelled very slowly,

but none the less the guns suffered to a considerable extent. It seems impossible to avoid this, you cannot provide a heavy gun-carriage with springs, and nothing else will serve to save the equipment from inevitable jolting. We lost even rivets out of the steel plates that form the side brackets of the carriages, which shows the severity of the strain to which they were subjected. We arrived at our new destination about midday, and a very different spot it was to the one we had left. Instead of a pretty country village, it was a miners' town consisting of one long filthy street, down the centre of which ran a gutter that smelt as only such gutters can smell in hot weather. Billeting had been arranged for us, but most of us preferred the open sky to the pigsties that we were offered. At least we had known decent barns and clean straw up till now, and while there was still warmth in the summer night we preferred our blankets on the open ground to the scarcely veiled threats of vermin. It was in truth a horrible place, and we were deeply thankful when we learnt that we were only to stay there a single night.

On the morrow we made our last move as a Brigade, but this time largely on foot, as our ammunition lorries left us here. I started off with the greater part of the Battery, leaving the rest to follow on what lorries there were left, and their cars and motor-cycles, I preferring my feet as a method of locomotion when the alternative was one of the latter abominations. We marched about seven miles to our rendezvous, the edge of a great wood that bordered the main road, and here we waited for the rest, for we could go no farther by daylight; we were drawing up close now. The lorries joined us, and after dark

we proceeded, showing no lights, not even smoking, motor-cycles not allowed to be ridden for fear of flashes due to misfires. That was where I scored, for the motor-cyclists had to push their mounts a matter of some ten miles. A weary march that was, but I think that few of us felt its weariness, for there, showing ahead of us like beacon fires beckoning us on, were the flares rising above the distant trenches, the flashes of the unsleeping field guns, and in our ears was the swelling roar of battle. And when at last, soon after midnight, we lay down by the roadside where we stood, too tired to seek for better shelter, I think our dreams were sweet, for we had reached the goal of our desires, the haven of our dreams, the Front !

CHAPTER V

A WAR DIARY

PROBABLY nearly everybody who goes over to the other side, or, indeed, to any of the various theatres of war, makes up his mind to keep a diary. Personally I have always made it one of my New Year resolutions, even in peace-time, and for quite a long time I used to purchase regularly about Christmas-time an imposing-looking affair with pink blotting-paper decorations between the leaves, and all manner of strangely assorted data at the end consisting of things that I always wanted to know in a hurry when the diary itself had long passed into oblivion, the way of its predecessors. In some years I even got so far as to make three consecutive entries on the three first evenings of January, but beyond that I never got. Perhaps the mental effort of recalling all that I had done in the past twenty-four hours was too much for me at the end of the day; perhaps they had been so devoid of incident that I was ashamed even to attempt to describe them if only to myself. But, on the eve of sailing with the Battery, I searched the shops until I found a really convenient little book that I made up my mind I would carry in my haversack, to be duly filled at unemployed moments with vivid accounts of all the wonderful things that I was sure were about to happen to me.

My only doubt was whether there would be enough room in which to recount them. I reflected with pride how in years to come my descendants would pore over the well-thumbed volume, how they would read history in the making, how they would draw mental pictures of their illustrious ancestor leading his Battery into action, seated upon the driving-seat of a three-ton motor-lorry, brandishing his prismatic compass, the very incarnation of martial ardour. It was a beautiful dream that might have been realized but for one single unlucky incident. In the final bustle of departure, I left the little book behind.

I very soon found that my pictures of quiet evenings, wherein I should find time to write passages that should breathe the very spirit of war, were rudely shattered, and that I had competitors in the descriptive art who far outshone me. A pile of letters would be laid upon the table, the productions of the whole Battery, and with a sigh for our lost leisure we would turn to the unpleasant task of censoring them. I hate reading other people's letters, even when they are addressed to me; when they happen to be addressed to total strangers, they bore me to extinction. Of course there were occasional flashes of humour, as when one powerful gunner wrote to his lady-love: "I am keeping very fit, but can do with an occasional dose of salts"; or when another, who had an apparently limitless acquaintance among the fair sex, secured several sheets of carbon paper, with which he produced many copies of the same letter, and sent one to each. Most of them were cheerful, downright epistles, reflecting the capital spirit of the men, but sometimes imagination ran away with the writers. One, so soon as he arrived at the base, "heard the shells

hurtling over our heads," another saw, one particularly peaceful night, "the Officer's Mess blown to pieces." In this case perhaps he took the will for the deed, for he had fallen foul of the Major by blowing melancholy tunes on a particularly nauseous tin-whistle just outside his billet when he was working out some difficult problem on a map. Like the Fat Boy, they all seemed to love to make their correspondants' flesh creep, except when anything in which they had actually taken part had occurred, when they were singularly modest in their reticence. But the censoring of letters is a rotten job, anyway; one feels like a criminal all the time.

My war diary finally took the shape of hurried entries at the end of my Field Service Message Book, a sort of large notebook that necessarily accompanied me wherever I went. In it were inserted no finely worded descriptions, no fervent passages over which future generations might ponder spellbound. I had no time for entries of any kind until the Battery had established itself in its first position, and then, as may be imagined, my descriptions were terse. I choose one at random: "Spent day drawing stores. Guns loaded on train. Left in charge of them 11.30 P.M." Yet what stirring of the pulses does such an entry produce. It was the port of disembarkation, the enchantment of a new arrival was upon us all. Drawing stores! I see visions of myself, tearing from one end of the great docks to the other, worrying every storeman in turn for the issue of "One screwdriver $2\frac{1}{2}$ inch." It was laid down that we were to possess one, of its particular use I could form no idea, but the completion of the Battery to the last drawing-pin was my one aim, and trouble was nothing to

attain this end. Then, "Guns loaded on train." What a vision of excitement! We were off to the firing-line that very evening, the whole Battery had turned out to load those guns, they had leapt on to the waiting trucks as if they too were eager to take their part in the great game to which we all were tending. "Left in charge of them 11.30 P.M." I see the long train, the methodical marshalling, the happy faces of the men I had chosen to go with me; I hear the strange foreign note of the engine's whistle, the quick clipt accents of the railwaymen, the homely chants of my own gunners. Is a diary, even in this curt fashion, kept in vain?

Of course there are other War Diaries, the official records of units that are kept on the prescribed Army Forms by some unfortunate detailed by that unit. To the stranger they are dull and utterly unconvincing, even as mine would be to anybody but myself. They arrive at the War Office, that paradise of neat paper covers, and their external appearance is almost more interesting than their contents. Here is one in which the supply of Army Forms had evidently failed the Battery. Upon a discoloured sheet of foolscap is written, "Battery shelled from 1.52 to 2.17 P.M." (Note the precision of the writer. One sees him calmly looking at his watch as the first and last shell fell.) "Detachments proceeded under cover. No casualties. No. 3 emplacement slightly damaged." One can picture it, the dash for shelter, the hail of flying splinters, the hoarse cheers of the men as shell after shell fails to strike a gun or a dug-out. Then a crash and a frightened exclamation from those who could see from the dug-outs, as a shell bursts seemingly right on top of No. 3 gun. And at 2.17½ P.M.

the hurried examination, and the further cheering when it is discovered that the gun is unharmed. Official war diaries are terse and meaningless. They usually begin, "Reference Map France (B series), Sheet 36c, Third Edition," or something equally incomprehensible, and go on under some forgotten date. "Opened fire at 3.43 P.M. on H19a83." Again one forms the mental picture, the observation officer with his glasses directed upon some pin-point in the distance, the men at the guns, working with the precision of machines, the flash and roar of the discharge, the cry of the section commander, "Deflection four five minutes right—"

But to return to my own diary. It was first entered just at the height of my first arrival at the Front, when war was a new thing to me, when all its sights and sounds sang in my blood like new and heady wine. We were all the same, fatigue passed us by untouched, discomfort filled us with laughter rather than with grumbling. I quote as it is written, my memory amplifying the bare sentences. For instance, an entry dated just a week after we had landed. "Spent morning in Béthune." We had been moving up from the base all these days, chafing at our necessarily slow progress, and the Battery was halted at a little village some twenty miles back. The Captain and I took the car into Béthune to get stores. It was our first experience of a town within the range of shell-fire and I confess I was as excited as a schoolboy. We turned into the narrow streets of the old town, and for a moment their picturesqueness made me forget the times we lived in. The whole place was mediæval, the narrow streets, the great square church tower, the beautiful outlines

of the belfry, the crooked-fronted houses that faced on the Square. But suddenly reality burst upon me. Here was a shop with its plate-glass windows obscured by match-boarding, that hid the ravages of the last bombardment, there was an old building protected by sandbags, farther on still a depression in the cobble-stones showed where a crater had been hastily filled in. The general air of the place was almost one of disappointment that the town had been so long immune from its periodical excitement. “Oui, monsieur,” said the extremely loquacious lady in the grocer’s shop, to whom I insisted in talking in what passed for her native tongue, although her English was far better than my French—“oui, monsieur, maintenant c’est presque quinze jours que les obus sont arrivés !” I think she felt lacking in due hospitality, felt that she could not really show the town at its best if the enemy were so inconsiderate as not to drop a few shells in it during our visit. But, beyond the evidence of past destruction, the time might have been one of peace, the British soldiery who strolled about might have been the worthy citizens masquerading for some fête in warlike attire. We were profoundly disappointed; I hardly know what we expected to see or hear, but certainly not this. We should have felt more thrills at home in England if we had driven over before lunch to see some market town wherein there had been a big fire some time previously. Still, we had been the first of the Battery even to see so much, and our return to our bivouac partook of the nature of the return of heroes.

But it was merely a matter of hours now before the Battery as a whole came within the zone of the

unceasing roar of guns, where the night is one long pyrotechnic display of flares from the trenches. On the very next day is the entry, "Motored to — and thence to —" (both villages within a couple of miles from the trenches). "Reconnoitred positions for Battery and returned." We were halted for the last time now, the next move would be to the battery position selected for us, and a party must set out to reconnoitre that position. The car started with the Major and myself as his assistant, and we covered the few miles that separated us from the first village in a very few minutes, reading the way from our maps, with which we had by now been issued. We arrived at Artillery Headquarters, waited there a few minutes, then finding that we were before our time, set out on foot to explore for ourselves. There was a railway bridge a few hundred yards in front of us, which we determined to reach, as it seemed that from it we might gain a good idea of the general lie of the country. We walked towards it, and had hardly covered half the distance that separated us from it when we heard a strange indescribable sound in the air. We both knew what it was, we had often at practice camps heard the same sound going away from us, but here it was coming nearer. Before we had time to speak, a black cloud of dust and smoke rose from a slag-heap beside the bridge that had been our objective, and a loud "crrump" sounded in our ears. We looked at one another and laughed. We had heard the fall of the first hostile shell that was to menace us.

A few minutes later we picked up the guide that was to show us where the Battery was to be placed. We drove in the car through a mining village that showed signs of bombardment in broken chimneys

and breached roofs, but was teeming with an utterly undismayed population. Then we negotiated a level crossing, and were soon in the district where ruins began to be visible and the inhabitants were fewer. The battery position was pointed out to us, and in the absorption of planning out the best means of occupying it, we lost interest in observation of anything but our immediate surroundings. But, our business finished, we stood for a while upon a piece of ground higher than the rest and surveyed the scene before us. All was quiet in our immediate neighbourhood, but about half a mile away upon the right shells were falling methodically into a group of houses, each burst being accompanied by a cloud of black smoke and pink brick-dust. The trenches were hidden from us by a fold in the ground, but from their direction came the unceasing crackle of rifle-fire, and occasionally the sharper note of a machine-gun. It was a perfect, still morning, and in the clear air each separate sound rang out distinct and apart. Somewhere behind us, one of our field howitzer batteries was firing in occasional rounds of battery fire. One—two—three—four, came the sound of the guns, then the whirring of the shells as they passed overhead, echoing in a strange way as the sound struck the regular rows of houses in front of us. Then, dimly, from the distance, floated in the sound of the exploding shells, one—two—three—four, as the guns had been. Far away to our right was a cluster of French *soixante-quinzes*, who knew no regular order, but clamoured in bursts of rapid fire for a few seconds at long and indefinite intervals. Farther away still, in the far distance, was a haze of smoke over a wooded height, the Vimy Ridge, and a confused murmur of

artillery, trench mortar, and rifle-fire reached us from its seeming solitude.

The first night in this place seemed even more wonderful. The batteries about us were slightly less busy, but none the less they were never asleep for long, and to the roar of their discharges was added the sudden bright flash as of a sheet of summer lightning. From the trenches soared the bright flares, each rocket-like appearance accompanied by an intensified clatter of rifles, by the sharp crack of grenades. Now and then a deep "boom" would tell of the bursting of the shell of a heavy trench mortar; once or twice a small shell whistled over us to burst some distance in rear. There was no sleep for us that night, we were too busy preparing our position, but we wondered if sleep would ever be possible in such a place. In a couple of nights we were resting happily within a few yards of the discharge of our own guns, and would only wake with a confused feeling as of something missing if they ceased.

The battery position was merely a sort of ante-room to the Front, we were very soon actually to see this mysterious region of which we had read so much and in reality knew so little. Next day comes the casual entry, "Reconnoitred forward observation posts." We had borrowed a guide from a Battery which had been in the locality for some considerable time, and he led us forward towards the place whence we could overlook the trenches. Our way took us right out of the inhabited area, into a deserted land that had once been cultivated fields, up past cross-roads that had a most unpleasant reputation. We hastened past them with all due speed, too rapidly to notice the features they exhibited. But in time familiarity

bred contempt, and we would even pause to see the strange forms that destruction had here taken. A church at one corner had had its peculiar extinguisher-like little steeple lifted bodily by a shell, only to settle down again at a rakish angle upon the square tower. An *estaminet* opposite had had its front wall sheered completely away, so that it appeared like a doll's house with the door open, each article of furniture standing almost intact in the exposed rooms. Great craters, hastily filled with the brick rubbish that lay all around, covered the roadway, such walls as stood were pock-marked with shrapnel bullets. We passed on over the crest of the hill, and here for the first time we saw true ruin. Before us lay a big and beautifully planned village, each little house set in its own garden, groves of trees standing in the open spaces about them. At each end of this village there stood the imposing buildings and towers of a great mine, a handsome modern church had stood in the centre of all. But not a soul was to be seen moving in the whole landscape, the village was deserted, every other house had a shattered roof or bore great gaps in the expanse of its walls. The tall chimneys of the mines were felled; they lay in great heaps of ruins as they had fallen. The buildings were full of the most modern machinery, but this was rusted and broken, twisted here and there by the violence of the shell that had fallen against it. The tower of the church stood yet, but its top was as a jagged tooth pointing towards heaven, and great gaps showed piles of debris in its interior. The roof of the nave had almost disappeared, its beams lay upon the floor, and from between them peeped the fragments of the *prie-Dieu* that once had filled it. The village

was veined with communication trenches, it was unwise to walk about the surface of the ground ; hostile snipers cunningly placed were apt to select one as a target, and artillery opened upon any considerable party that appeared. It was indeed the Abomination of Desolation.

We were to know that village, its wide streets and garden paths, better than our native towns, before we were very much older. It was built upon a slope that overlooked the trenches, and from some of its houses the view that we desired could be obtained. We wandered about the maze of communication trenches that ran through it, rising from them here and there behind the shelter of likely looking houses, until we pitched upon two that would serve our purpose, one for permanent occupation, the other in case any misfortune should overtake the first. Of course we had several adventures. One of us was about to enter a ruin that looked hopeful when a small shell made a neat round hole in the roof, a circumstance that acted as a deterrent of our intentions. Fortunately so, indeed, for that particular house was completely demolished in the course of the next few days. Another of our party, after having a look at the ruined church, and profoundly mistrusting its appearance, selected a cottage that promised well, and, incautiously leaving it on its exposed side, was narrowly missed by a sniper. However, we completed our task without casualty, and wended our way back through the desolation, marvelling as we went. It seems a terrible thing to see these deserted shattered villages, but their destruction is a necessary part of war. We ourselves were, within a few days, doing exactly the same thing to the villages in the

enemy's line ; indeed, a big city lay before us, into which we poured heavy shell night and day. The destruction of churches is regrettable, but is more than ever necessary. If an artillery observer can see from a church tower, he will most certainly use it, and it is an axiom of modern war that all possible observation posts must as far as possible be destroyed. The bombardment of a church is carried out in no spirit of ruthlessness, it is part of a definite military plan.

Our observation posts once chosen, it became necessary to prepare them for our occupation by giving the observation officer some semblance of protection, and by providing a dug-out for the telephonists. On the day following our journey of discovery, my diary contains the following entry : "With six volunteers, constructed observation posts. Shells falling close, but no casualties." I had paraded my section, and told them what was required. They, of course, were for the job to a man, everybody wanted to go up forward and see what was to be seen. I chose half a dozen, and bearing shovels and sandbags between us, we started out. I watched in their faces the same emotions as I had experienced on the previous day, nervousness quickly giving place to wonder and surprise. We reached the forward of the two houses—it was not more than three or four hundred yards behind the trenches, and well above them—and each in turn peeped through the hole that I had selected as the observing-window. Then we set to work to fortify the place, not against direct hits, that was impossible, but against rifle bullets or casual fragments. There was an excellent cellar below the house, which we adapted for the tele-

phonists. The observation-window was upon the upper floor, and we built up a redoubt of sandbags behind it, just sufficient to accommodate the observing officer and a small table for his maps. But sandbags are heavy things, and I, casually entering the kitchen below, found the ceiling bending ominously. The house was full of furniture, scattered all over the place, showing the haste in which the owners had left it, so we selected a wardrobe that reached nearly to the ceiling, and with the help of this and the remains of the kitchen dresser, we made a very excellent buttress against further subsidence. It was not a very beautiful example of interior domestic architecture, but it served its purpose admirably. Splinters of shell were flying about us all the time, which delighted my working party beyond measure. They were the first of the Battery to come under fire—one man cut his finger against the sharp edge of a splinter that he picked up as it fell at his feet, and proudly claimed first blood. They were all quite sorry when the work was finished and it was time to go home. I gave them one last look at the line, and then we trudged homewards through the wide empty streets.

But this one village was a mere drop in the vast ocean of ruins that surrounded us. I subsequently climbed into the ruined church tower, from which an excellent view of the whole country could be obtained. In our own lines were three or four villages like the one wherein we had our station, and they looked bare and tumbled enough. But in the enemy's line was a big city, or rather collection of small towns running into one another, a wide vista of bricks and mortar that stretched almost as far as

the eye could see. And, gaze through my glasses where I would, I could see no sign of life, although I knew that troops must be quartered in the cellars, and that many of the seeming ruins sheltered observers. Gaunt mine buildings stood with their tall chimneys cut off short, their winding-shafts crooked and broken, great gaps torn in their blank walls. The houses about them were roofless and shattered, the church towers that rose here and there were pierced and jagged. I had known the city in peace-time, a roaring hive of activity, filled with the sounds of life and of machinery, covered with a pall of smoke from its busy chimneys. Now it lay silent and dead, almost as one would imagine a city of the moon, tumbling into decay after ages of abandonment ; except where its only sound, the bursting of the shells, and its only smoke, the clouds that followed, destroyed the illusion. The deserted country behind the trenches is melancholy enough, but this desolation, that had once been the centre of a teeming population, was far worse.

But our work was soon to begin, it was no time to indulge in useless meditation. On the next day comes the entry : "Battery in action for the first time. Twenty rounds registration." Registration, I may explain, is a system whereby a battery corrects its calculations by firing at a certain target, and registering the elevation and "switch" that scores a hit. Battery in action for the first time ! I stood behind the guns, watching. It was so like a practice camp, so impossible to realize that we were actually about to throw several pounds of lyddite at our fellow-men. Why were we going to ? We bore them no personal animosity, had never seen them, in fact. No,

but then one bears no animosity towards the partridges—so one vainly dreams at such moments.

The detachments loaded, mechanically, without excitement; the orders came down from the Major up at the Observation Post. I gave the elevation and direction to the gun, stepped into the pit myself and verified it with my own eyes. I should have done so at a practice camp. “Fire!” The old howitzer barked as I had so often known it do, and forthwith we reloaded in the due fulfilment of our drill. The first round that we had fired with intention to destroy brought no thrills in its train.

Up at the Observation Post it was quite a different matter. Now, instead of some mound or stone representing an imaginary object pointed out as a target, were real trenches containing an enemy that it was our business to destroy, to kill, to maim, to mutilate, in as great numbers as possible. On this side of them, and most uncomfortably close to them, were our own trenches full of our own men. A very slight error in calculation, a verbal slip on the telephone, a misunderstanding by the section commander at the guns, a trifling inaccuracy of the layer or “number one,” any one of these would be quite sufficient to drop the shell amongst the latter. And excuse for such a crime does not exist. The wise man puts on a large correction to allow for these, and drops his first round well beyond his target. One hears the report of the gun, the steady booming of the shell through the air, over one’s head, and then the bright flash, the cloud of smoke, followed by the deep roar of the explosion. There is no illusion of the practice camp at this end, far too much hangs upon one’s judgment and one’s decision, no longer the

adverse criticism of a well-disposed instructor, but the lives of one's own men calling for vengeance, the ruin of one's career. It is not a pleasant time during those moments before the first round falls.

But we were lucky, personnel and material both played up to the call made upon them, and our first shoot passed off successfully. And somehow, with its passing, we felt that we had all at once become seasoned veterans ; like the cargo-tramp in Kipling's story, we had found ourselves. No longer were we a collection of separate individuals, all training at our own particular job, each anxious that he should be undisturbed to carry out his own duties. No longer jealousy or scorn existed between one section and another, between the gun detachments and the specialists, between the old soldiers and the new. We were a Battery, complete and homogeneous, the error of one man touched the honour of the whole, brilliant achievements were not those of individuals but of the Battery. As a complete unity we henceforth thought and spoke, we, a newly formed unit, had become in six months of strenuous training, but more especially in the few days of our sojourn in France, a far closer corporation than we should ever have become in the unlimited years of peace.

The subsequent history of the Battery is briefly told. It took part in the affair of Loos, was moved shortly afterwards to another position, whence it bore its share of the operations about Hulluch that followed. It was moved to a different part of the line, where it was split up and for some months acted in two distinct sections. It was joined up again, and returned near to its original position. Officers and men left it on being wounded and on promotion,

their places were taken by others until not a half of its original members now remain. But it is still the same Battery, it still retains its individual existence in the same way as does the human body, notwithstanding the continual wasting away and replacement of its tissues. Many of its members have earned distinction, all have proved themselves good soldiers and true, men who have placed duty first and safety and inclination second. Yet none have claimed the credit to themselves, it is the Battery that made their deeds possible, let the Battery reap the reward in the good name that it bears, let those who join it feel honoured by inclusion in its company.

For all of us who have left it—and I was among the first, the diary written some days after the event says : “Went outside O.P. to observe slight shelling. Was hit by stray splinter”—it will always be “The Battery.” We have served or are serving in others, no less distinguished or efficient, striving to do our duty in these no less than we did before, hoping in the light of the experience we have gained to do better. But the old love is yet strong in us, and we dream of those days when we first had “found ourselves”; when we learnt the elements of the laws and the compelling excitement of the Great Game together, when we first gazed with pride upon the guns we loved, when we knew each man beside us as we know a friend.

CHAPTER VI

SKETCHES

I. THE GROUP COMMANDER

CERTAINLY we were very raw when we first got out there, every Battery must be, it is even a test of its efficiency how soon it learns the ropes and renders its habits pleasant to the many great people who arrive from nowhere and view it with an impartial eye. There are so many of these people, seemingly, and somehow they do not always appear to view the excellence of the Battery in quite the same light as the Battery itself does. The latter consequently feels hurt, of course it has been trained to the highest possible pitch of efficiency, Lydd itself could pick no holes in its performances. What fools and worse the higher artillery commanders of the British Expeditionary Force must be not to perceive these things at once, to welcome the Battery as a valuable acquisition to their Command, to be willing to put their dignity aside and learn from this fresh product of the schools how things really *should* be done ! After all, who were they, most of them, to criticize our methods, to throw cold water on the brilliant ideas we formed of the position we should occupy, the Observation Post we should choose ? Had they undergone courses of instruction as we had, courses wherein an answer had been given to every problem

that could possibly confront us ? War experience ? Oh, yes, perhaps, but then how often had a trifle of war experience failed to tally with the doctrines of the schools ? To the obvious disparagement of the former, so the Battery reasoned, and in truth the Battery was sore and scornful.

It was then that a Staff Captain dropped in from nowhere upon our Commanding Officer. "Your Group Commander is coming up to have a look at you this afternoon," he said. "I'll come up with him and introduce you if I get the chance. Colonel Healy's his name ; you'll find him a very good sort. Got all you want ? That's all right. So long ! "

We were getting into position at the time, digging pits for the guns with all our might ; our hearts, exalted by the thought of the glorious deeds we would do on the morrow, sustaining our weary arms and aching backs. At home the advent of a senior officer was the signal for the stoppage of all work, and the arraying of the Battery in two long ranks, where it stood, bored to distraction, until such time as the said senior officer chose to dismiss it, having successfully wasted a whole precious morning. Was this performance to be repeated ? Surely so deeply rooted a tradition of the British Army could not be laid aside, even now !

"The men had better go on working," said the Major to us. "We can get them fallen in at once if the Colonel wants to see them. You fellows had better hang about, so that I can introduce you. I never heard his name before ; I wonder where he came from ? "

We spent that morning in conjecture. After all, between us we knew most of the Colonels in the

Regiment by name, it was odd that none of us happened to know this one. Still, time would disclose the type to which he belonged ; helpful, interfering, knowledgeable, or incompetent. So we waited expectantly the arrival of a car with a pompous gentleman and his suite, and it was not until I, leaning in my shirt-sleeves on a spade, felt a hand upon my shoulder and a voice in my ear saying, "Well, my boy, that's a fine hole you're digging ! Going to grow sweet-peas, eh ?" that I realized that the Colonel had arrived.

He bore no red hat, no scarlet tabs that are so often the badges of ignorance, but was dressed in a suit of service dress, upon which was exhibited the stress of war, the gun upon his cap, the grenade upon the lapels of his coat, and—horrors!—a large T below them. Speechless, I conducted him to the presence of the Major, who received him with a puzzled, almost horrified expression. Then I went back to my work to think deeply.

The Captain's step, as he almost ran towards me, roused me a few minutes later from my meditation. "Did you see that fellow?" he hissed, and without giving me time to reply, went on : "The imitation Colonel, I mean. I left him telling the Major what to do, I couldn't stick it any longer. Just fancy a blasted Territorial put in command of a group that includes a Regular Battery ! The thing's preposterous ! Why, I've got as many years' service as he has months !" I fully agreed, and we held an indignation meeting that lasted well into the night.

It did not take us very long to learn wisdom. There was something about Colonel Healy that utterly broke down any attempt at antagonism. He addressed the Divisional Artillery Commander as

“Old cock,” a proceeding that that worthy deeply resented, but, knowing the value of the offender, he merely smiled with a good grace. He would call the French Colonel, who commanded the artillery brigade that joined his own group area, by all the names in the calendar, through the medium of an interpreter, as neither spoke a word of any tongue but his own, and threaten to have that interpreter shot if he suspected him of not translating his language with sufficient force. Yet the two were the firmest friends, and relied implicitly upon one another. He insisted in calling his group the Healy Troupe, because he swore we were a crowd of profane comedians, yet he worked night and day for its welfare, and made a personal friend of every officer in it. At conferences, whereat high Generals would meet together in an atmosphere of holy awe, he would rise up and denounce a carefully prepared plan as preposterous and absurd, would volunteer the information that he was a business man and not a soldier, that he was not going to obey such ridiculous instructions, and that if they didn’t like it they could send him back to his business, where he could earn a damned sight more money than he was earning now. And his advice was always taken, for there was nothing about the employment of howitzers that he did not know. He would wander into the Battery Mess about tea-time, and sit for hours regaling us with a river of new stories that never seemed to fail, calling us all, from the Major to the junior subaltern, “My boy,” or “Old son.” He had an eye for each one’s particular strong points and would encourage him to develop it, till each one of us vied with the other for his word of commendation for some small service.

The Captain and I became his devoted worshippers, we who had led the chorus of sarcastic scorn at his first appearance. And, when we moved at last from that happy Group wherein our trust and reliance in its Commander had been put to the test of strenuous warfare, and grown stronger for the test as the days went by, it was with something of the pangs of regret with which a youth first leaves home to make his solitary way through an unsympathetic world.

II. THE MAJOR

He had been marked down as brilliant from the very first. He had headed his term in the final examinations at "The Shop," as the Regiment designates the Royal Military Academy, Woolwich. He had done the same thing at the Young Officers' Course at Shoeburyness, everybody expected him to, including, of course, himself. Thence he had passed into a Coast Defence Company, where he devoted a surprisingly large amount of his time to work, and a surprisingly small amount to "poodlefaking" and other such amusements of the care-free subaltern. In due time, he underwent all the manifold courses and examinations that are open to a gunner. He took the Gunnery Staff Course at an early age, and became an Instructor in Gunnery, brilliant in his knowledge, evolving fresh mathematical formulæ daily, writing treatises upon ballistics and other hidden arts, leaving the audiences to whom he lectured dumbfounded and swimming helplessly in a limitless sea of verbiage, but dazzled and impressed by the boundless cleverness of their teacher. He never returned to Regimental employment, his talents

were too precious to be wasted in the mere training of men for such an impossible occurrence as war ; the task of making the routine of every day interesting and instructive, the hardest problem that besets a thoughtful soldier, was far beneath the abilities of such men as he was. He passed like a comet through employment after employment, irradiating them all in turn with the reflection of his own effulgence, infallibly gaining a reputation in each that endured when he had passed by. Perhaps this reputation was born in the mouths of men to whom he said things that they did not understand, we are all so apt to assume that if a thing is incomprehensible to us it is because it is beyond us, not because we are beyond it. In due course he married a wife, one rather wonders why. Affection seemed to have nothing particular to do with it, his mind was too full of the calculus, both differential and integral, to allow of any part of its precious space being usurped by any so useless a subject as affection. Perhaps he had calculated his chances of domestic comfort by the Theory of Probability, and had come to the conclusion that they would be most favourable to himself if he married this lady. He treated her with kindness, even with bonhomie, in his leisure moments, and presumed that she could amuse herself attending to his comfort while he was busy. She, after a few feeble struggles, learnt the temper of the man when roused, and settled down to a lifetime of dullness, looking up at the beacon of his cleverness much as other people did, but without the slightest feeling of any proprietary interest in it.

Then war broke out, and the search for able men to command newly raised batteries began. Who

more suitable than this man ? Certainly he had been long away from Regimental work, but a man of his attainments would very soon pick that up again, and then, look how he towered above his contemporaries in all that pertained to a knowledge of the science of gunnery ! So he was given the task of forming an early Battery, and in the course of a few weeks had contrived to get himself cordially disliked by his men, his fellow-officers, and his superiors.

It was not that he was unpleasant in his manner, or a tyrant, that produced this feeling. He could be very pleasant when he chose, he was a gentleman in every sense of the word, he was not a disagreeable companion in Mess. But he was the only person who knew how a thing should be done, the rest of the world were fools, whom it was his business to teach ; no idea, however brilliant, that did not keep step with his own, was worthy of a moment's consideration. The niceties of Regimental work he never took the trouble to study ; he commanded the Battery, and its members' duty was to do as he told them. Men could be managed in exactly the same way as figures, their characters were subject to the same unvarying mathematical laws. He never cared to know that men can only be managed by tact and sympathy, that an understanding of *personnel* is of far greater value than an exhaustive knowledge of *matériel*, that a Battery is led to its highest state of efficiency by the science of human personality rather than by all the formulæ of the textbooks. However, the Battery ran its course at home, not without internal dissensions and regrettable incidents, and at last carried out its practice without disaster certainly, but not with the credit to its Major that the latter

considered that he deserved. He openly attributed this misfortune to the fact that the officers and men would not take the trouble to understand thoroughly his theories, they had forgotten all his instructions at the critical moment, and had allowed old ideas, that he had vainly tried to eradicate, to invade their foolish brains under the influence of excitement. Still, he hoped and prayed that they would improve over the other side.

Men wondered how he would enjoy life at the front, he had dwelt in a comfortable job all his service, his life had been mainly that of a man who attends in his office for a certain number of hours every day and then goes comfortably to bed. But fortune favoured him, the Battery was ordered to take up a position near a farmhouse that provided very comfortable quarters, and the rest he arranged for himself. His reputation still hung about him as an aura, men felt that what he did must be right, and asked no questions. On the contrary, where his methods differed from theirs, they felt an uneasiness, searched their hearts in secret to see why theirs were wrong. So he was left to himself, and at first he enjoyed the life. But soon he began to be conscious of a strange discomfort. The experience of the Observation Post had to be made to fit in with his theories, it was obviously wrongly interpreted if it did not, and this fitting in became increasingly difficult. His officers, not venturing to disagree with him, sat silent in his presence, others, his superiors, were wont to argue, and argument, when he knew that his contention was right, was more than he could bear. He became moody, snappish, impatient of any order that was sent to him. His cleverness

was of so little avail, thanks to the stupidity of the rest of the Battery ; he made no better shooting than the Battery next door, which was commanded by a man who had been the fool of his term at The Shop, and had never risen above the general Regimental level all his life. Little incidents excited him to frenzy, excitement reacted upon his bodily health till he became thin and careworn. And finally came the day when the Battery was called upon to make its supreme effort, and the Major, worried by orders from his Group Commander and reports from his observation officer, sat down to work out ranges and angles in a desperate race against time. But the figures, those figures he had so often dragooned into strict obedience to his will, refused to obey him. Many times he attempted the most simple calculations, obtaining a different and obviously incorrect result at each attempt. His brain refused to work, his mind became a background of intertwined theories, hideous in their unintelligible tangle, before which danced a furious medley of figures, of algebraical signs, of Greek letters. Then he did the wisest thing that he ever did in his life. He sent for his Captain, and with an utterly changed manner asked him if he would mind taking over, as he did not feel very well. And in utter astonishment his Captain complied.

Nervous breakdown they call this pathetic stroke that cuts down the ablest men, this seemingly incomprehensible tragedy that turns a man of decision into a hopeless invalid.

III. THE SUBALTERN

It is the duty, as much as the tradition, of junior officers to be light-hearted. War is such a desperately

serious business, has such a terrible effect upon one's nerves and temper if one broods over it too long, that it is obviously up to some one to treat the whole thing in an irresponsible spirit. And, after all, there is very much to cause amusement in the daily life of a Battery on service, if one is prepared to put aside all grumbling and misgiving as inappropriate to the great game in which one is engaged. I do not believe that many people seriously worry about their chances of death, one is apt to forget that in a host of minor worries: whether one will get one's next meal in comfort, whether one's fellow-officers have appropriated all the dry spots in the cellar, whether one will be dragged out of one's comfortable valise to carry out a night shoot. These are all matters of extreme urgency, but none the less matters for the indulgence of a hearty laughter, even if they work out against oneself. There is a vast delight to be derived from the spectacle of one's Major, seated on his valise in the pouring rain, eating biscuits and jam with a jack-knife, what time he endeavours to solve some knotty problem on a sodden map. Of course the humour of the situation is not for him, the solution of the problem is a matter of too vital importance to leave any room in his mind for the perception of the ridiculous, but he is none the less grateful if some one about him is cheerful in the face of the general depression, and can look upon the things that worry him with an eye to their funny side.

Such a one was the Subaltern. Where he came from and what his past history was nobody knew or troubled to inquire. He had served in the Regiment for a few years, then retired, and had rejoined on

the outbreak of war. Since then, indeed throughout the whole of his life, by his own account, the most surprising things had happened to him. His stories were listened to with enthusiasm by the whole Battery. They were never known to fail under any circumstances, indeed, never a day passed but some new and impossible thing befell him, to be related with unthinkable details that evening to an astonished Mess. It hardly mattered to him or to them whether they believed him or not, it put people in a good temper, and that was really all that mattered. Certainly, he seemed to have been born under a star of mixed significance. Not a shell burst anywhere near the Battery but singled him out by some flying splinter, yet these did nothing but tear a hole in his clothes or remove a microscopic piece of his skin. If any more serious shelling took place anywhere in the vicinity, he was always there, but entirely escaped injury. And every incident he related with a fund of humour that never failed.

Yet he was a coward, not only physically, but morally, and it was this one trait in his character that he fought against, lest at some unlucky moment it should betray itself to his comrades and he be looked upon for the rest of his life with contemptuous interest, as one who suffered from that strange complaint "cold feet." All his life he had been afraid, not so much of actual physical danger, though this was not easy to face when he was alone, but of ridicule or reproof. He had always rather lied than faced an uncomfortable situation; why, he could hardly say. Perhaps it was this form of cowardice that led him to keep the essential facts of his past to himself, and to return evasive replies when ques-

tioned upon it. He may have thought that their disclosure would have lowered him in the world's estimation, and of this he was more afraid than of anything.

But, out at the Front, it was not so much this fear that troubled him, as the physical fear that came when danger had to be faced alone. It was so easy to affect a sort of bravado to hide his terror when anybody was with him, besides, their very presence gave him a sort of confidence, perhaps shamed him from the exhibition of his feelings. But when alone he suffered acutely whenever he heard a bullet whizz overhead, or the long-drawn wail of an advancing shell. He set himself to combat this peculiar nervousness, urged to do so by the fear that some one might recognize it. He would, when off duty, make expeditions by himself to parts of the line that lay in the Battery area and were reputed specially dangerous, or choose for reconnaissance villages that were perpetually under fire. What his thoughts were on these occasions no one ever knew; he spoke of these excursions merely to describe any incidents of interest that had occurred to him, or any information that he had picked up. But it seemed to him that he was living two lives, one the true life of his heart, that he loathed, the other the life that he exhibited. He would have given all that he possessed for the latter to have been the real one. Perhaps after much endeavour on his part it might become so, perhaps this strange fear would shrink before the courage with which he combated it, it might be that in the great maelstrom of war this one poor atom would find forces to act upon it and so change its nature to a happier state. Or perhaps

some sudden shell would set its problems at rest for ever, who could tell ?

But until the time should come he remained a source of delight to the Battery, who hung upon his words, a never-failing source of cheerfulness in times of trouble and discomfort. And none of his hearers guessed the strife that was waged perpetually in his soul, the struggle between reality and imagination, the conflict of what he was and what he wished to be. His seniors described him as a most promising young officer, his contemporaries as a capital fellow to have in a Mess, his men as a section officer who did not mind putting himself out for their welfare, and a daredevil sort of chap who never put on swank. They could all portray his manner, but no one of them but he himself could penetrate his soul.

IV. THE OLD GUNNER

His term of service had expired years ago, he had done his eight years with the colours, during which time, except for the consequences of an occasional spree, his conduct-sheets had remained very clean ; and he had subsequently taken up the trade of sign-painter, in which he prospered exceedingly. His four years' service in the Reserve had passed without incident, but he never forgot the old days in the Service, and sometimes when he was alone—as he frequently was, for he had never married—he half regretted them and wished he had extended his service. But these were merely the hours of pleasant retrospective melancholy, as he well knew. Sign-painting was a more lucrative trade than soldiering, and he was very fond of his creature comforts. Beer

was a great solace to a lonely man, he could do with plenty of it, as his nose and complexion generally proclaimed to the world at large. But then he could carry his drink, no one had ever seen him the worse for liquor since he took his discharge. His was a thoroughly happy and contented existence, he probably had all he wished for in the world, and he guarded himself with great care from the thrusts of one or two women who proclaimed themselves solicitous for the lonely man's welfare, and were generally credited with "designs."

When war broke out, he made up his mind within a minute of receiving the news, and as soon as he heard that the call for men had been issued, he shook out his pipe, left his job unfinished, and walked straight to the local recruiting officer, and very soon found himself at the Depot where he had originally joined nearly twenty years before. The fascination of the old life gripped him, the Depot was short of N.C.O.'s, and the old soldiers were put to the task of teaching the shoals of raw recruits so much of their old knowledge as they could remember, and he thoroughly enjoyed himself. He was indisputably the king of the canteen, where from his throne by the stove he would lay down Military Law as he understood it to the respectfully listening "rookies." His language was crude and often blasphemous, but his principles were those that made the men of the old Regular Army the best soldiers in the world.

It was not long before he was transferred to a Battery, where he rapidly became invaluable. It was a Battery that had been formed mainly of "Kitchener's Men" with a sprinkling of old soldiers like himself. There is so much in the training of a

soldier that cannot be taught by officers or N.C.O.'s, so much that he must learn from his comrades. And it was just these things that he was most competent to convey ; he loved to talk, and they loved to listen, and as they listened a thousand details sprang into life in their hearts, details each one of which is utterly insignificant by itself, but which, when added together as a whole, mean so much more than can ever be explained. He became a "limber-gunner" in the Battery, where his duties were to watch over one of the guns and its constituent stores, and a bold man it was who dared to interfere in any way with his precious charges.

One incident before the Battery sailed for overseas is worthy of record. A couple of days before the Battery was due to move, he was missing, and his section officer lived in an agony of apprehension and sorrow—for he, too, was an old soldier, knowing his men and caring for them—until he was informed on the morrow of the prodigal's return. Then came the scene before the C.O., when he was duly cautioned and let off. These things are done ; it is sometimes better so. But the section officer interviewed him privately and told him as man to man exactly what he thought of his behaviour, what sort of a crime it really was on the part of one to whom the whole Battery had learnt to look for guidance. He stood silent, shamefaced, till pressed by his scandalized section officer to give some account of himself, then : "There is a woman, Sir—in the old days——" This was the only reference to the past.

Over the other side he proved his value more fully than ever. He seemed to know everything that is worth knowing instinctively ; young soldiers turned

to him for advice when their superiors brutally told them to look after themselves, and never was it unwisely tendered. He seemed naturally to take charge of his gun when the Battery were engaged in strenuous work; the very N.C.O.'s turned to him for guidance when bewilderment hovered about. Promotion for himself he steadily declined, a few pence more a day were no use to him, he said, he had nobody to save money for, and he liked to feel that he had no responsibilities beyond the care of his gun. This particular responsibility he shouldered with pride, his gun was by far the most carefully tended of any, his stores were always complete to the last handspike. His gun was his idol, he lived by it, slept in its pit, ate his meals sitting on its clumsy trail. He groomed it as a horse, stealing the Quartermaster-Sergeant's paraffin for the purpose, and knew every one of the scratches on its paint. Woe betide the detachment if, even in the heat of an engagement, they made any fresh ones!

And at last came a day when the Huns seemed determined to search out the two Batteries in our immediate neighbourhood. Shells started to drop all about ourselves and the Field Battery at our side in ever-increasing numbers, until it seemed that they must surely put one of the guns out of action. Neither of the Batteries was firing, the men were in their dug-outs until the storm should cease. But he it was who saw, from the entrance to his own dug-out, wherein he crouched, watching in agony lest some flying splinter should harm his idol, the shell that burst on the top of one of our neighbours' dug-outs, killing or wounding the greater part of its occupants.

"Come on, boys, let's go and carry the blighters in," was all he said, and there, across that fatal field, alive with the swift harbingers of death, he walked, a party of his particular chums behind him, as if he were strolling over to the canteen to get a drink. There is no "mention" for deeds like this, that form of honour is reserved mainly for Staff Officers who do not fail too obviously in their safe duties, but the memory of him and his action will be for ever a precious tradition as long as the Battery exists, to be told, during future years of peace, in the canteen to countless generations of new recruits. And who shall say which is the greater honour ?

V. THE NEW GUNNER

He was a product of modern board-school education, grafted upon a character naturally impatient and complaining. He had been taught just too much and just too little, enough to convince him that all men are born equal, except himself, who was better than them all, and not enough to show him that true supremacy comes only from devotion to duty and to the ideals of a gentleman. He had lived his short life in a factory, where, under a tactful foreman, he had been a thoroughly good, skilled workman, but where, upon this man's hand being removed, he became a thorough nuisance, preaching improperly digested doctrines of an impossible socialism to men with less natural aptitude than himself. The war and the host of volunteers that flocked to the colours left him unmoved. A soldier's life he could not understand, would never for an instant submit to. Discipline in any shape was nothing but a form of

slavery, he would never take orders from men no better than himself

But when Lord Derby's forlorn attempt to save voluntarism presented itself to him, he had the sense to see that it was merely the forerunner of general conscription. Making a virtue of necessity, he loudly proclaimed that he was prepared to sink temporarily his convictions and become a soldier for the nonce as being the surest way to serve the sacred cause of socialism. Fortunately he was not asked for the logic of this argument, it was no clearer to him than it would have been to his interrogator. So in due course he joined up, and after a preliminary sojourn in a Depot and a large garrison, wherein he learnt many things that were good for his soul, was posted to a Battery under training for the Front.

Some enthusiasm for his new job, foreign though such a feeling was to him, caught him in its toils. He was comparatively well educated, and undoubtedly quick at absorbing knowledge, and he elected to be trained as a telephonist, a branch of specialization most important to a gunner. The technical part of the business he learnt very rapidly, he was even prevailed upon, more by the ridicule of his comrades than by any other agency, to say "Sir" when delivering a message to an officer. In barracks he gave no trouble, he seemed resolved to accept the regulations that order a soldier's life, and to obey them, albeit somewhat contemptuously. In the hands of a N.C.O. that he did not like, he posed as a fool, being careful not to offend in any way that could be brought home to him. But he took a particular fancy to the Bombardier to whose squad of telephonists he belonged, which was odd, because

the man had been a chauffeur, and all servants of the rich were by his creed servile and base beyond words ; he also learned to trust his section officer, who, had he so much as guessed his views, would have been the last man on earth to sympathize with them. These two could do anything with him ; in their hands he became a veritable expert in the deeper mysteries of his calling. But his peculiar mentality evinced itself in a curiously misplaced energy. With a perfectly genuine desire to please his friends, he was perpetually endeavouring to do something which nobody asked or desired him to do. He smuggled one of the instruments, which was slightly out of order, to bed with him one night, and proceeded to light a candle about midnight and put it right again. For this he was in danger of being brought before the C.O. for showing a light after "lights out," a danger that was only averted by the tact of the Bombardier, who divined the intention that lay beneath the act.

He had reached a working compromise by the time that the Battery had arrived at the Front, and had apparently evolved a system of subservience to all discipline, no matter by whom directed, that satisfied the workings of his conscience. He was invaluable as a telephonist and layer of lines ; his natural wit showed him a way out of every difficulty that beset him with remarkable promptitude. He became the observation officer's most trusted henchman, the one who could be relied upon to carry out any particularly awkward job, or to coax a recalcitrant instrument into proper working order. His first experience of fire was amusing. He had been wont to declare that he would scorn to shelter in a dug-out from any shell that could fall, that he was as safe on the ground

as below it, and that he preferred to meet his death in the open air like a man. But one fine day he and his party apparently formed the target for quite an alarming display of hostile energy, and seeing every one round him run for a communication trench that happened to be handy, he ran too. After all, all men were equal, and it was hardly logical for him to set himself above others.

At the height of a small engagement he was alone with his section officer in the forward observing station. The Battery was in action, doing its level best to support the infantry as they struggled toward the opposite trenches. For some reason the Observation Post was not molested, but the ground behind it was the target for a determined barrage fire by the enemy, undertaken with a view to preventing reinforcements coming up from the rear. All at once he looked up from the instrument into which he had been calling the orders that the observation officer gave him. "Line's cut, sir," he reported calmly. "Buzzer won't work even."

The observation officer thought with the rapidity of lightning. The line must be repaired at once, until it was, the Battery was out of action, and the chief support of the hard-pressed infantry withdrawn. He must not leave his post, that was his first duty, yet it was a terrible thing to order any one else to undertake; the fire behind him was growing in intensity. But he was saved the trouble of speech.

The telephonist was already on his feet. "I shan't be long, Sir," he said. "I expect the line's cut where it crosses the road. Will you keep on buzzing till you get an answer, sir?"

The next five minutes seemed like so many hours

to the officer. He tapped regularly with the little black key, but no reply reached his anxious ear. Was the man killed, or at least incapacitated? Almost he had made up his mind to go out himself, when at last a loud buzz answered his touch. A few hurried orders and the Battery was in action once more. But what of the intrepid linesman?

A few minutes later a burst of suppressed profanity announced his return. The officer turned sharply, to see his clothes torn and mud-spattered, but himself apparently undamaged. But the strenuous language continued.

"What's the matter? Are you hit?" asked the officer sharply, between his observation of the rounds.

"No, Sir, I'm not hit," was the reply. "But I've lost my blinking pliers, and they were the only pair in the Battery that were any use with this cussed telephone."

CHAPTER VII

MORE SKETCHES

I. THE SERGEANT-MAJOR

THE Sergeant-Major is, in fact, the controller of the Battery's internal economy. He is the great link between the officers and their men in matters pertaining to discipline, he has a finger upon the pulse of the barrack-room, an ear in the councils of the commanding officer, and by a judicious hint to one or the other he can regulate the temper of the Battery, can convert discontent into happiness. The ideal Sergeant-Major is one who inspires obedience by a commanding personality as much as by the traditions of discipline ; he should be capable of standing up before the Battery on parade and telling it what he thinks in no measured terms and in a voice that every man can hear. A knowledge of the details of gunnery is not of vital importance to him, so long as he is able to act as the assistant of the Battery Commander if necessary, but he must be an adept in the managing of men, for much of the administrative work of the Battery is perforce left to him on service. Cases have been known where a Battery, under the command of a hopelessly incompetent Major, has been held together in peace-time and has even become reasonably efficient owing entirely to the influence of a Sergeant-Major who has earned

nothing but unmerited rebuke for his pains, and, on the other hand, I have known able and conscientious officers utterly fail to get into touch with the corporate spirit of the Battery for lack of an efficient link between them.

To an officer forming a Battery for service overseas in these days, it is as important a thing to get a good Sergeant-Major as it is to get good officers. We were very lucky in finding almost the ideal. He was an oldish man, of nearly thirty years' service, with grey hair, but he stood well over six feet in his socks, with a chest in proportion, and a voice that could turn the Battery on its heels as one man at a quarter of a mile. He had originally enlisted because his father had been a gunner, and, therefore, no other profession had been imagined for him. He had learnt the art of behaving himself, and thereby saving himself from the degradation of the guard-room, from his father, long before he joined the service, and his years as a gunner passed uneventfully. Promotion was very slow in those days, an N.C.O. was a man who had experience and sense, very different from these days when the raw recruit one day is disguised as a Sergeant the next. He was not very much of a scholar, although he knew his job thoroughly, and the necessary certificates of education were very hard to get. Still, get them he did at last, and after not too long a wait he placed on his arm the single chevron of the Acting Bombardier. Promotion usually means jealousy, and the newly promoted N.C.O. of those days who could not maintain discipline with his fists, if necessary, ran a very poor chance of making good. Men would not obey him simply because he ran them in before the C.O. ; too much of that sort

of thing very soon made him an object of contempt to them, a situation that usually ended in his appearing before the C.O. himself with a request to be allowed to revert to gunner. Terrible though this doctrine may sound to some, such a state of affairs is a very wholesome one. Conditions in a barrack-room are not the same as those in a young ladies' seminary, and let us pray they will never become so. A man who places reliance in his physical strength makes a better soldier nine times out of ten than one whose only source of help is his brain, even in these days of scientific warfare.

He very soon justified his new rank, and in the slow course of years climbed up the rungs of full Bombardier and Corporal to Sergeant. In this capacity he was a model to his colleagues. He knew his drills perfectly, enough of the methods of gunnery to be able to impart to his detachment as much as was necessary for them to know, yet not so much as to make him imagine that he knew more than his officers. His men obeyed him without question, he never had any need to support his orders by argument ; of the Sergeants' Mess he was a cheerful but never noisy member. It was indeed a great loss to that institution when he got married and left it. In due course he attained promotion to Battery Sergeant-Major, and, at the time when war broke out, had served in this capacity for some years, winning the confidence of all the officers he served under, and maintaining his Battery in a state of good order.

We were formed during the early months of the war, and he was posted to us at once. A newly formed Battery is a vastly different unit to one that has been in existence for a number of years ; all are

strange to one another, officers, N.C.O.'s, and men. The strangeness was intensified in our case ; we were composed of men who had been serving in Coast Defence Companies abroad at the outbreak of war, mobilized reservists who had forgotten a great part of what they had once known, old soldiers re-enlisted, and a few recruits, enthusiastic to a fault, but, of course, quite ignorant of even the groundings of a gunner. Our N.C.O.'s likewise had blown in from anywhere and everywhere, some had spent most of their service in an office, others in coast defence, where they had never been permitted so much as to look at a gun on wheels ; one had been in charge of a gun on an auxiliary cruiser since war broke out, another had commanded a platoon of improvised infantry in the Aden Hinterland. The R.G.A. are called upon to fulfil strange duties. The Sergeant-Major took this curious mixture in his firm hand and dealt with it as he would, sorting the sheep from the goats, curtly commanding the former to get on with it, and the latter instantly to mend their ways under penalty of immediate and serious trouble. In a week the Battery gained coherence ; in a month it lived, worked, drank, and thought as one man. It was a fine piece of work on his part that did not fail of recognition. At first, of course, the men loathed him ; discipline these days is not what it was, the old soldiers knew it and had expected an easy time. Their rude awakening evinced itself in seditious mutterings behind his back, in the bestowal of opprobrious names, of which "The Grey Mare" seemed to be the most lasting. But this hate was always mingled with respect, and in a very short time the latter triumphed.

He was more than once offered a commission, but he always steadfastly declined it. What had he to do with learning a new trade at his time of life ? An almost perfect Sergeant-Major he was, would he become an equally perfect officer ? He wisely much doubted it. Besides, what extra pay he would gain would be swallowed up by the necessity of his wife and himself entirely altering their mode of living. Let others younger than himself accept the honour if they chose, he was content to remain as he was. Possibly a very proper pride had something to do with it ; we were training in a very large garrison town, and the sight of a large proportion of the temporary officers who passed through it was not such as to encourage a sensible man to become one of their number. The maxim that temporary officers should at least endeavour to behave as temporary gentlemen does not always take effect, and it is very often a greater sign of one's social and moral superiority to be serving in the ranks than to be wearing the Sam Browne belt.

Over the other side he did his duty as it fell to him, but the greatest part of his task was over. And service in a Battery where things run like clock-work, where each man knows his job and does it, where the N.C.O.'s can be trusted to look after their men, where crime is unknown, is very pleasant for all its members. And I think that all of us, not excluding those who had once felt the heavy weight of his displeasure, joined in attributing in a very great measure the enjoyment of these comforts to the personality of the Sergeant-Major.

II. THE TEMPORARY OFFICER *

There are temporary officers and temporary officers ; they range from appalling to excellent, as is natural from the diversity of sources from which they were drawn. In the first scurry of the formation of the New Armies, practically any one who applied, so long as he had had no previous experience of soldiering, could obtain a commission. Men poured in from every conceivable walk of life, from every occupation, from the 'Varsity man to the son of the cobbler. Some were good, the majority were bad, not through any particular fault of their own, but because there was no apparent reason why they should be placed in command of men who were just as capable, and often far more so, than themselves. The bad ones had no experience in the handling of men, and no tact wherewith to learn the art. Many of these latter have quitted themselves as men and as soldiers, but—they have never been officers.

The subject of this sketch was one of the good ones, an officer temporarily and a gentleman permanently, in the full sense of the word. He was one of the most fully educated men that I have ever met ; indeed, his early years had been devoted to the attainment of no other end. He had passed from one of the leading Public Schools into the 'Varsity, where his natural cleverness and application had gained for him every advantage. He became a wrangler, and passed the Indian Civil Service examinations with flying colours, and then, just as he was at the threshold

* Since this sketch was written the subject of it has died of wounds received in the enthusiastic performance of his duty. He himself would have desired no more fitting end.

of his career, the war broke out and he received a commission in the R.G.A.

He was a born leader of men ; his section worshipped him from the first, not because he pampered them—he used, for instance, to make them run for miles every morning before breakfast, himself leading them—but because they realized that he never asked them to do anything that he was not prepared to do himself, and never assumed airs of any kind, being quite prepared to receive instruction from any of them on subjects that they knew better than he did, subjects whose number was surprisingly small. To this qualification he added an aptitude for absorbing the scientific side of his profession, for which, of course, his previous education had prepared him. He was for ever juggling with the formulæ of gunnery, evolving fresh methods of working out problems, introducing mathematics of a standard before which the mere soldier stood aghast. But with all this he managed to keep up very determined views upon the subjects of the day. I shall never forget one evening at a little Mess that my own Battery and his had established together in a small and very dirty public-house. I fear that we had all been talking Shop throughout dinner, discussing methods of ranging, the choice of observation posts, and a thousand things pertaining to our peculiar art. “Dinner” consisted of a pale and evil-smelling fluid, followed by cold beef and cheese ; our beverage was beer, for which the scene of our labours was famous. Hardly an inspiring meal, perhaps, but we had been out in the open all day, and managed to do ourselves justice in the intervals of our conversation. Coffee and liqueurs there were not, but we pushed back our chairs, lit our pipes, and prepared to continue the discussion.

Our temporary officer had borne a leading part in it, as was his nature, but now his brain had travelled to other problems. He turned to our Major, who was a thoughtful person, but one who never failed to see the humour of a situation, and, apropos of nothing, remarked, "What are your views on the White Slave Traffic, Sir?" I can still hear the roar of laughter that greeted this remark, but it was only typical of his intense seriousness. I picture him years hence as a Member of Parliament, if Parliament still exists after the war as a handsome ornament and a useful safety-valve for the nation's grievances, and the chairman of countless societies for the encouragement of all manner of laudable ideas.

Not that he was in any way devoted entirely to the stern facts of life. He could derive an immense amount of amusement from its lighter side, and was one of those gifted people who can describe a situation in such a manner as to bring out its keenest humours. His stories were always effective, although perhaps his audience was not always educated up to his standard of wit. Nor was he in the least afraid of appearing ridiculous. We were all mounted on motor-bicycles, officers and certain N.C.O.'s, that is to say, and I have many memories of the horrors of the time when we were endeavouring to learn to ride them. The casualties while so doing were greater than we experienced for many months over the other side. One Major broke his arm, other valuable officers suffered serious contusions, all lost their tempers, some, apparently, permanently. I leave to the expert on these devilish engines the task of imagining the scenes in which we endeavoured to instruct our Sergeant-Major in their use, he being an oldish man who had hitherto avoided even the push-bicycle.

But to return to our temporary officer. He had never mounted one of the infernal things before, and I have vivid recollections of seeing him disappear at a terrific speed down a crowded street, shouting at the top of his voice, because, as he explained afterwards, having fortunately returned unscathed, he had forgotten how to turn the confounded thing off, and had no hands to spare from steering to blow the blessed trumpet !

When his Battery reached the Front and came into action, he was in his element. He was never really satisfied with the concealment of his section, or the readiness with which his gun could be manned. He and one or two picked men were always planting fresh gardens on the roof of his gun-pit, or devising ingenious schemes whereby everything would fall into its place upon the first alarm. His efforts, of course, bestirred the emulation of the other section officers, and they were always out to go one better. The resulting effect upon the general efficiency of the Battery was surprising.

In one respect more than any other he proved his sterling worth. In his Battery were certain internal dissensions, that threatened to tear it asunder. The reasons for this were obscure and not worthy of examination, but it can easily be realized that when men are herded together with no other society but that of one another, the smallest unpleasantness is apt to become unbearable. He, with consummate tact, and with an unfailing gift for probing the depths of human nature, found perpetual means to conciliate and to keep in a good temper one party and the other alternately, so that life was possible in a more or less genial atmosphere. Had this been his only achievement, his Battery would have had cause to be proud of their Temporary Officer.

III. THE Q.M.S.

He was a Corporal when I first met him, many years ago, but his characteristics were the same then as they are now. I was very young then, just commissioned, with a perfect faith in my own abilities and a scarcely veiled contempt for those who did not agree with me. He was not quite so young, but he had even greater confidence in himself than I had, and whereas I endeavoured to hide my contempt for the methods of others, he did not. He owed his promotion to the magnificent discipline he inspired in his squad ; apt to be insubordinate in himself, he took precious good care that nobody should rebel against his authority, and being a man almost as broad as he was long, he managed to make his wishes obeyed. It was this combination of qualities that led me to choose him and an Irish Bombardier, the latter rather fond of drink, but when sober a magnificent worker, on the occasion that I was ordered to take two N.C.O.'s and a party of men and proceed to an outlying fort to dismount some guns. It proved a wise choice. My Corporal was good enough to tell me, after the first morning's work, that I seemed to know what I was about, whereupon I was admitted to the very small circle of those of whom he approved, and there was very little beer to be had in the neighbourhood, so that my Bombardier, though with his tongue hanging out, toiled incessantly, without lapse. The men worked like heroes, stimulated by their liking for what was a very interesting job, and by the encouragement of their Corporal, who sweated himself with the best of them and threw things that no other man could lift at any one whom

he caught shirking his due share of work. We were a very happy party, the men spent the hours of rest in sleep, what time the Corporal and I embarked in a little sailing-boat I had and went out to catch bass. We never caught any, perhaps because our tackle consisted of some spun-yarn, part of a tobacco tin, and a piece of bent wire ; perhaps because there were no bass to catch. However, it kept us amused.

We finished the job in a surprisingly short time, owing to reckless departure from the safety limits laid down in a chatty little novelette known as *Garrison Artillery Training, Volume III.* Looking back, the eyes of my memory view with horror stupendous weights most insecurely balanced, and beneath them the whole party hitting the only thing that supported them with mauls, or delicate pieces of machinery swinging at the end of thin ropes not calculated to bear a quarter of their weight. However, we got through without serious adventure, albeit he and I seem to have striven to perform the most reckless actions. I think that this success only served to spur us on to more desperate deeds.

I left that Company very shortly afterwards, and did not meet my friend again until just after the outbreak of war, when I was posted to one of the Depots. The first sound that greeted my ears was that of a well-remembered voice, raised in accents of stern admonition ; the first sight that burst upon me that of a red face, a burly figure, that had hardly altered in the years that had intervened. He was a Sergeant now, in charge of a huge squad of recruits who had in something less than a week learnt to move as one man as soon as he opened his mouth. His peculiar faculty for getting what he wanted had

developed in a marvellous degree. His gigantic squad adored him, knowing the unfailing good-nature that lay behind his terrifying demeanour. He and they lived in a big warehouse, some way from the rest of the Depot, where they formed a separate colony, as it were, where good spirits were rife and crime was unknown. The temper of these men may be gauged by an incident that occurred. For some reason their leader had to be removed for a couple of days, and his followers got it into their heads that it was for good. That very night, a frightened Bombardier burst in upon me with the news that the Warehouse had mutinied, and that he had asked the Sergeant of the Guard to get the rest of the Depot under arms to quell them. I went across to see what the trouble was, and heard pandemonium in full cry. The whole place was in utter darkness, some ruffian had cut off the electric light at the main, but I had an electric torch, and my curiosity was rewarded by the most extraordinary sight I ever saw. The men had begun by throwing their china plates and basins about, and these, not unnaturally, had terminated their flight on the heads of others. This had led to rancour, and when I arrived on the scene, the place was littered with broken plates and basins, amidst which every man was struggling with everybody else, quite unaware of who his opponent was. We sent the Sergeant back next day.

He it was who, when an interfering officer came in a car at two o'clock one pitch-dark night to inspect a guard of which he was in command, directed him along a road which ended in a sand-drift, wherein he and the car floundered for the rest of the night. He it was who, having been sent away with a couple

of men to a place a few miles away for the space of five days, duly handed back on his return the money that had been given him for his party's sustenance, and on being interrogated as to how they had lived, replied, "On the country, sir, as Field Service Regulations tell us to." He left the Depot soon after that, and again for a few months I lost sight of him.

But not for very long, we seemed fated to meet throughout our service. He was now Quartermaster-Sergeant, for short, Q.M.S., of a Battery that was ordered to mobilize at the station in which I was then serving. Now a good Q.M.S. over the other side means that the whole Battery lives in luxury. He draws the rations, and a good man, or rather shall I say a thoroughly unscrupulous man, can extract all manner of extras in the shape of rum and vegetables and such-like from a usually stony-hearted supply officer. I envied that Battery and told them so, and very shortly afterwards he justified my words. Upon their getting the order to commence collecting their stores for departure overseas, he obtained permission from his C.O. to take half a dozen lorries and a party of men, and drove straight to Woolwich Arsenal, where, sometimes by virtue of his unquenchable eloquence, sometimes by engaging the storekeeper in talk whilst one of his confederates pocketed the particular object he coveted, sometimes even by main force, he succeeded in amassing in his lorries, over which he placed an armed guard, nearly everything that he wanted. It was indeed a great accomplishment.

I do not know what happened to that Battery when it reached the other side, but of one thing I am convinced, that whatever perils it may have

undergone, in whatever situation it may have found itself, never has it been without its full share and more of any good thing that was attainable by any human means.

IV. TAFFY

I knew very little about his previous history, but his enemies used to say that he was a Glamorganshire miner who enlisted when drunk, and certainly I believe the first statement to be true. The second I have no means of verifying, but I should imagine, judging by the time that he spent in that distressing condition while he was in the Service, that the odds were against his ever having been sober in his previous existence. It was this little failing of his that first drew my attention to him. Upon the second morning after the Battery was formed, the Sergeant in charge of my section reported one man absent. "It's one of the recruits, Sir ; he was put in the guard-room last night. The picket found him drunk in town. I don't rightly know their names yet, sir, but the men call him Taffy, because he's a Welshman."

It was Taffy's fifth "drunk" in his six weeks' service, not a bad record. Now King's Regulations ordain that a soldier is to be allowed one "drunk" free, but on each following occasion he is to be mulcted in a fine of increasing amount, such fine to be stopped out of his pay. Taffy's pay, therefore, very soon became mortgaged far in advance, and on the weekly pay-day there was nothing for him. This deterred him for a while, but not for long. He had a gorgeous bout one evening, but escaped detection by entering barracks over a wall that no sober man could have attempted. I, hearing the story later, wondered

where the necessary funds had come from. I soon discovered, for at the next periodical kit inspection Taffy was found to have no possessions other than those he stood up in. He was issued with another set, and their cost debited against him in the pay-list. I think he was some three or four pounds in debt at this period. He became the bane of my life. Other men's socks and such-like trifles began to disappear from the barrack-room, and, no doubt, found their way to the same pawnbroker who had so obligingly advanced money on Taffy's own kit. There was no doubt as to the culprit, but he was much too cunning to leave any clue behind him by which the crimes could be brought home to him. The appearance of the section was utterly spoilt by his slovenly figure. It seemed impossible to teach him the very first principles of cleanliness ; he was an eyesore to everybody, from the Major downwards.

At last the latter tackled me about him. "Look here," he said, "we shall have to get rid of that fellow of yours, he's a disgrace to the Battery. More than half the crime we've had is his, and he comes on parade looking like a tramp. What are you going to do about it ? "

Batteries training for overseas have the privilege of discard into Home Defence units, so I knew that the Major had only to say the word for me to be quit of him for ever. But, strange though it may seem, when it actually came to the point, I did not jump at the idea. I could not help liking the man ; he had his good points, although he disguised them so successfully. For one thing, he was a humorist ; he had cheered up the whole Battery by his remarks one pelting night when we were practising digging

in the dark, and for another, he had an eye like a hawk. I tried to train him as a gun-layer, but his brain refused to grasp the elementary mental arithmetic that is necessary for the purpose. He had astonished everybody when the Battery had fired the statutory number of rounds from its hand-guns, by taking a rifle in his hands for the first time in his life and making a score consisting mainly of bulls. So I prayed for one more chance for him, and got it. Some time later I interviewed him in private, and tried to impress upon him the error of his ways. He appeared penitent, wept, told me that he was the apple of his aged mother's eye, and that henceforth he would behave as became the ideal soldier. Next day he was caught, *in flagrante delicto*, abstracting a comrade's shirt from its owner's kit-bag. This was more than flesh and blood could bear, and after a sharp scene with the C.O., who sentenced him to a period of detention that would keep him out of harm's way in the guard-room for a bit, his transfer from the Battery was applied for. But it was not to be. That very day the Battery received its orders to proceed overseas in a couple of days' time, and in the bustle of preparation the transfer could not be arranged. So away the Battery marched, Taffy safely ensconced upon one of the lorries, for a Siege Battery carries its personnel on its back, so to speak.

With the departure of the Battery from its training centre, Taffy came into his own. Throughout the long march across France he acted the part of a band with a concertina which he had picked up goodness knows where, interspersing his numbers with jests of the peculiar broad humour that the men appreciate. At night when we bivouacked, he turned his hand

to any job that came along, foraging for wood, helping the cooks, doing everything, in short, with a cheerful grin spread right across his ugly face. He must have combined poaching with the coal-mining of his civilian life, for he had developed to an extraordinary degree the arts of finding his way about a strange country, of discovering a dry spot to lay his blanket on, while others slept in the wet, of cajoling shelter and food from a people of whose tongue he knew nothing. One particularly unpleasant evening we reached a remarkably dirty town in a coal-mining district, where no billets were available, and we were faced with the prospect of camping cheerlessly on its filthy pavements. But Taffy was a brother of the miners from the first moment they saw him ; it was as if some strange freemasonry appealed to their goodwill. They brought him coal wherewith to build fires ; they showed him outhouses wherein a handful of men, if they packed themselves carefully, might sleep ; they even produced beer without payment. And Taffy took charge of the Battery and acted as its good shepherd, for of all his faults selfishness was not one.

And subsequently, whenever the Battery was digging itself into a new position, a toilsome process that lasts for weary days and nights before it reaches completion, Taffy was ever the one to take pick in hand and to show us how it really should be used. His miner's training had taught him that long ago, and by himself, with a particular pal of his whom we called "Dirty Dick" as shoveller, he would excavate as much as any six other men could do. Nor was this all, when his own bit was finished he would go and lend a hand to some other party who

were not so far ahead. Many was the time that we mentally forgave Taffy for the trouble that he had given us at home, and often, as I have watched him at work, or heard his good-natured chaff keeping up the spirits of the Battery after a hard day, have I thought of his orgies and his missing kit with a tolerant smile.

V. THE SIGNALLERS

The signaller is essentially a peculiar person, he deals in symbols and abbreviations entirely foreign to the average mortal. The Morse Code itself, in which he lives and speaks and has his being, is bad enough, but when he complicates his very speech by rechristening the common letters we all employ, the matter is getting beyond a joke. He calls a "ac," b "beer" (this shows a secret yearning), d "don," m "emma," p "pip," s "esses," t "toc," and v "vic." Of course his motive is obvious, he wishes to avoid the possibility of mistake when reading messages letter by letter, but it makes his jargon no clearer to the uninitiated listener. And the instruments he plays with are strange, too. There is the heliograph, a somewhat doubtful weapon in a climate where sunshine is usually at a premium, but useful in countries where the sun is somewhat more favourable; the signalling lamp, lit by either electricity or paraffin; the buzzer in its many forms; the flag that he loves to wave madly; the "disc signalling," that looks like an ingenious device to defeat the wily fly while on the wing, and a host of others. One must suppose that hourly communion with such strange companions and such a peculiar ritual make of him a being apart.

For such he certainly is, in the average Battery. During its training, he wanders off by himself into the middle distance, where he solemnly takes a newspaper from his pocket and sends its contents to his companions by flag, lamp, helio, or other little-understood means. He loves the words that no man can spell, choosing the paragraphs that contain them. He starts humbly, "A Dutch trawler has put into Ymuiden," and smiles grimly as the puzzled receivers request him to repeat. You cannot guess a word like "Ymuiden." Then he grows more ambitious. The capture and recapture of Przemysl afforded him a great scope for amusement, now presumably he revels in Czernovitz and Zaleszczyki. If one is lucky enough to possess an officer who has specialized in this particular branch of science, he is usually told off to deal with the training of the signallers, if not, they are left to the tender mercies of the senior N.C.O. among them, and in practice have to train themselves. We were fortunate enough to possess such an officer, in the shape of our Captain. He devoted long hours to teaching them the intricacies of the art, and certainly his efforts were crowned with success. We had the most efficient squad of signallers that I have ever met ; they were the pride of the Captain's heart and, presumably, a joy unto themselves. They signalled night and day, the whole geography of Russia was an open book to them ; they would even transmit Esperanto without a fault. I tried them at it once, so I know.

But there was one fly in the ointment that would have never ceased to worry the Captain had he known of its existence. He was a most upright person, his morals were beyond suspicion, his language always

seemly and free from blasphemous or libidinous language. But not so his protégés. Whether it was a consequence of their sheltered life, far removed from the *sturm und drang* of the everyday affairs of the Battery, or whether it was that they all happened to be made that way, I know not, but the fact remains that they habitually cursed and swore in epithets that would have frozen the heart of a bargee. I knew the sad truth long before we went abroad. I had passed their barrack-room in the silences of the night, and had heard the infernal chorus arising, but the Captain was a married man, he lived out of barracks, and nothing short of a hostile invasion would have lured him to the spot after the last parade was over. I dared not tell him the truth, it was never safe to criticize his pets; he was apt to retort with some acerbity about a short-coming of one's own section, so I let the matter slide, never thinking that it would concern me. But it did.

It was our luck, over the other side, to spend most of our time billeted in ruined houses. This is a matter that gives scope for much ingenuity. You allot to each section so many ruins, and tell them to make themselves comfortable, which they proceed to do, usually with some success. You then earmark another lot of ruins for the Officers' Mess and quarters, and proceed to make yourselves comfortable. On the first occasion when this happened, by some mistake on the part of the officer who had been told off to the job of allotting ruins, the signallers were forgotten, and by the time the omission had been discovered there was no room for them anywhere but in a very respectable house just by the cellar that the Captain and I had decided to share. It was

two or three nights before we got to bed, and when we did, we were tired, too tired to worry much about externals.

I was the first to wake in the morning, and for a moment I thought that I had been killed in my sleep by a stray shell and had awakened in hell, wherein all the denizens were rejoicing at my advent. After a few moments, however, I realized that it was my friends the signallers, waking up bright and early, having a gentle controversy as to who should use the washing-bucket first. One particularly bull-voiced gentleman appeared to be in possession, and was stoutly maintaining his intention of remaining so, amidst a chorus of protest from his companions. And the things they said to one another made me blush. I could not resist the temptation, and, leaning over the floor, I gently shook the Captain. After many ineffectual attempts to rouse him, he started up. "What's the matter?" he said.

"Your signallers seem to be in trouble, old man," I replied. "Listen!"

"I don't care if they are," he said sleepily; "they're quite capable of taking care of themselves. Hallo, what's that?"

His hardly awakened ear had caught a peculiarly choice epithet of the bull-voiced one, which seemed to reverberate through the cellar in all its richness. For one horrified moment he listened, then, hastily drawing on such clothes as he had discarded, leapt up the stairs into the signallers' abode, and forthwith banished them into the chilly morning, to become homeless wanderers on the face of the earth, under pain of instant death if they dared to find a new habitation within earshot of him. Then, with a

scornful look at me, he settled himself to a renewal of his broken slumber, wherein, I trust, were no hideous echoes of the past.

The signallers very soon found a fresh billet for themselves on the outskirts of the Battery, and often in the still evenings would I hear their strange chants arise, led usually by him of the bull-like voice. But the Captain refused to take any further interest in their welfare, his attitude was that of the Psalmist, "Woe is me that I am constrained to dwell with Mesech, and to have my habitation amongst the tents of Kedar." He said they might go to hell their own way for all that he cared, he only wished he had not got to live anywhere near them.

But, some months later, it was the bull-voiced one who picked up a certain wounded subaltern in his arms, bandaged him with the tenderness of a woman, and helped to carry him on a stretcher the best part of a mile along a road that was under shell-fire.

CHAPTER VIII

THE EVOLUTION OF ARTILLERY

THE subject of Artillery is such an extremely fascinating one, and is so little understood by the layman, that perhaps a short sketch of the development and use of ordnance may be of interest to the general reader. I shall not attempt a detailed historical and technical survey ; such exist already, compiled by far more capable hands than mine, but I shall endeavour to point out the various steps that have led up to the evolution of the modern weapon, and, roughly, the strategy that underlies its use in the warfare of to-day.

War, from the first moment when Palæolithic Man took up something heavy and threw it at his enemy, has always been a perpetual conflict between means of attack and means of defence. The man who had the stone thrown at him devised a rough shield to ward it off. In the course of the ages, the stone-thrower improved his weapons with a view to penetrating or breaking down the shield ; the shield-bearer improved his defence by the employment of stronger materials, or developed it into a suit of armour that encased his whole body. At one time or another came one of the periodical deadlocks in the progress of the science of war, when the defensive proved stronger than the offensive, and neither combatant

was able to inflict any very considerable damage upon the other, but, by abandoning the defensive himself, laid himself open to the reception of serious injury during his offensive. Modern trench-warfare, it may be observed, is merely another instance of such a deadlock. The offensive then sought for weapons which would overcome the preponderance of the defensive, and the solution of the problem was found in the art of employing mechanical means to hurl greater weights than could be hurled by hand, weights that should overwhelm by their mass a defence that was proof against lighter missiles or manually wielded weapons. And the birth of this art was the birth of artillery.

Perhaps Archimedes may be called the father of the Art, for certainly the invention of the catapult, with which he is commonly, and probably inaccurately, credited, was the first serious step forward of the new art. And with the use of the catapult, the first great problem of artillery must have presented itself, the problem of range ; that is to say, of regulating the forces acting upon the projectile in such a way as to enable the projector to make it fall at varying distances from his own position. It is obviously useless to be able to hurl a weight unless one can determine with some degree of certainty where it will fall, and the greater the degree of accuracy with which this can be determined, the greater will be the efficiency of the weapon, or, broadly, the greater the amount of damage it will do for the expenditure of a given amount of energy. It may be noted in passing that the catapult has its prototype in modern trench warfare, in the shape of an instrument known as the West Spring Gun, an apparatus consisting mainly of steel springs,

in appearance very much like the device used for the projection of clay pigeons. It is used to hurl grenades, and is capable of very delicate alteration of range by adjustment of the tension of the springs.

The catapult was a hopelessly unwieldy concern ; in modern language it lacked mobility, and could, therefore, not be brought up in the course of a battle of movement. It developed into a weapon of position, and it appears to have taken no part in military operations other than those involving a regular siege. The small-arm gradually attained to a more favourable position as a weapon of offence, by the invention of the cross-bow and other machines for the more violent projection of comparatively light bolts. Archers and cross-bow men were the answer of the offensive to the chain and plate mail of the defence, rendering the development of mechanical artillery unnecessary.

But the next great step forward of artillery that was to rescue it from the position of being merely an element in the equipment of a citadel, and, by endowing it with mobility, to place it in the ranks of a marching army, was already impending. The property of nitre or saltpetre of promoting the fierce and rapid combustion of inflammable bodies, when mixed with the latter in suitable proportions, had long been known, and this property had already been employed in warfare in the shape of a fiercely burning composition, known as Greek Fire, used mainly for setting on fire the wooden ships of the period. But the alchemists, in the course of their experiments with every substance known to them in the search for their two ideals, the Elixir of Life and the Philosopher's Stone, discovered the great fact that turned

the ineffective Greek Fire into the all-conquering Gunpowder. This fact was that rapid combustion could be so accelerated by the confinement of the combustible in an enclosed space as to become explosion, in other words, that the gaseous products of combustion were released so rapidly as to exert an enormous, though momentary, pressure. From this discovery the provision of a thick-walled cylinder, open at one end, with a small hole bored through the wall to communicate with the closed end, followed naturally, and so the first piece of ordnance was constructed. The cylinder was half filled with gunpowder, a roughly spherical projectile rammed in on the top of it, and the gun was loaded. It only required pointing in the direction of the target, elevating, that is to say inclining the axis of the cylinder to an angle with the horizontal, to a degree that experience had shown to be necessary, and it was ready for firing, which was accomplished by filling the touch-hole with powder, and the application of a red-hot poker to the end of this train by a remarkably courageous gentleman whose ancient title was a "Fire-worker."

Gunpowder, as its name implies, was originally a true powder, composed of saltpetre, charcoal, and sulphur, finely ground and mixed together in certain proportions. The rate of flame propagation through such a material is very rapid, so rapid as to be practically instantaneous. The whole charge, therefore, caught fire at once, and the gases that produced the pressure exerted as it were a sudden blow upon the shot, projecting it as a football is kicked. But this sudden pressure was exerted equally in all directions, subjecting the material of the cannon to the same

shock as was sustained by the projectile. The weight and, therefore, the strength of the cannon was limited by considerations of mobility. The distance to which the projectile could be thrown varied with the violence of the impulse to which it could be subjected, which in turn depended on the strength of the piece. The range of the early cannon was, therefore, strictly limited. The first phase of the development of artillery, which may be said to have continued till the early years of the nineteenth century, consisted of various improvements in the construction of cannon and projectiles, having in view increase of range and accuracy. The earlier pieces of ordnance were constructed of "gun-metal," an alloy of copper and zinc that probably varied considerably in its composition. It possesses greater toughness and tensile strength than any other metal capable of being cast known during the early days of artillery. But as the science of metallurgy progressed, it became possible to cast iron with some degree of certainty and freedom from flaws, and in due time iron took the place of gun-metal in the construction of guns. By its use, iron being stronger weight for weight than gun-metal, a weapon could be produced that would withstand a greater shock of discharge for the same weight of metal; in other words, a weapon that could achieve a greater range. At the same time the projectile developed from a roughly hewn stone into an accurately spherical iron shot, any two of which weighed practically the same, a condition that ensured greater accuracy of fire. But the greatest advance in the science of gunnery was made with the propellant. Gunpowder ceased to be a "powder" in the generally accepted sense of the word, and by improved methods

of manufacture and incorporation became a substance more like fine gravel, composed of grains of approximately equal size, and of practically the same composition. This may at first sight seem a small matter, but upon the physical condition of the propellant depends its rate of burning, the most vital matter of all. Flame appears to be propagated through the interstices of any explosive, and the finer its state of division the greater is the facility for combustion to spread throughout the mass, and the quicker it will be consumed. Now a man who wishes to project a cricket-ball with his hand to the greatest possible distance does not place it on a stump and hit it, but takes it in his hand and imparts to it an impulse of as long a duration as possible before he lets it fly. So with a gun. If, instead of producing a sudden violent explosion behind a shot and "kicking" it out of the muzzle, we can maintain a steady pressure behind it during its passage down the bore, it will, for a given weight of charge and shot, leave the muzzle with far greater velocity; in other words, it will range farther. More than this, instead of a sudden shock coming on the piece at the breech where the charge is situated, the stress will be distributed along its length, and it can consequently be made lighter. The adoption of cast-iron cannon and granulated powder mark the close of the first phase of the development of artillery.

The second, or modern phase, opens in the earlier years of the nineteenth century, and as the various steps followed one another in rapid succession, and the consequent combinations of new discoveries are somewhat complicated, it will be best to consider them under different headings, remembering the

while that the various improvements under each heading were adopted simultaneously.

The first direction in which invention manifested itself was in the substitution of hollow shell containing explosive for the solid shot hitherto employed. Regarding artillery for the moment purely as an instrument for the destruction of personnel, it is obvious that a shell, broken into pieces by its explosive charge, which pieces acquire velocity from the same agency, is likely to do greater damage than a single shot, although the latter may be heavier than the entire shell. The early spherical shell, filled with a charge of powder, would not explode on striking an object, however hard, and required a device for ensuring its explosion. This device, known as a fuse, consisted, in its earlier stages, of a piece of slow match inserted in the hole through which the shell was filled. The end of this slow match was ignited by the flame of the discharge, or, in some cases, before the shell was loaded, and burnt for a specified period, which was made to coincide as nearly as possible with the time of flight. At the end of this period, the flame reached the bursting charge within the shell, and explosion took place. In the case of this bursting charge, the finer the grain of the powder the better, for then the shell was shattered into many pieces, and its chance of inflicting injury increased. With the introduction of rifling, it became possible to employ an elongated projectile, which could be relied upon to travel nose foremost. This greatly simplified the problem of producing explosion at the proper moment, which may be taken to be the moment that the shell reaches the end of its flight. The fuse could now become a mechanical contrivance that would act upon

percussion, and the essential principles of such a fuse have not changed to the present day. These are as follows: The fuse, which may be fitted either into the head or the base of the shell, contains a pellet, free to move a short distance backwards or forwards in the direction of the shell's length. This pellet contains fulminate of mercury, or other substance capable of being detonated by a blow, and is of sensible weight. When the shell is arrested in its flight by impact, however slightly, as in the case of a glancing blow, the pellet, which has hitherto been in its rearward position, travels forward within the fuse by its own momentum, until it meets a needle which pierces the metal of the pellet, and, by striking the substance it contains, ignites it. The flame of this ignition is conveyed to a small reservoir of powder in the fuse itself, whence it spreads to the bursting charge of the shell. Various safety devices, which it is unnecessary to specify in detail, are provided to prevent the pellet moving forward until the shell has actually been fired from the gun. In some cases where it can be ensured that the shell will always strike a direct, rather than a glancing, blow, the fuse may consist of a copper disc holding a needle, which, forming the nose of the shell, is crushed down upon a fulminate capsule on impact.

But all shells are not required to burst upon impact, some, such as our own shrapnel and the German "Universal," are designed to burst in the air above the target, and to cover the latter with a spray of flying bullets or splinters. In order to produce this effect a "time-fuse" is necessary, which, in its modern form, is a fuse that can be set to explode a shell a definite though variable time after the dis-

charge of the gun. The earlier time-fuses consisted of a wooden shell holding a length of slow-burning composition. A hole could be punched in the covering of the composition at any required point, and at this hole the composition would become ignited by the flash of discharge, burning until it came to the end of its length, when the bursting charge of the shell was ignited. Consequently, the period between the discharge of the gun and the bursting of the shell could be increased by punching the hole farther from the end of the composition, and vice versa. These early wooden fuses were superseded by a metal fuse on much the same principle, though it is interesting to note that the wooden time-fuse has been revived for use with certain patterns of trench-mortar. The metal fuse has the composition set in a ring which can be revolved, and so allows of any required length being set between the igniting device and the point where the composition communicates its flame to the bursting charge. The igniting device is similar to that of the percussion fuse, with the essential difference that the pellet, originally in its forward position, sets back by its own inertia upon the shell moving forward in the bore of the gun, thus starting the burning of the composition at the moment of discharge.

The spherical powder-filled shell developed into the modern elongated projectile, filled with explosives designed to give perfect fragmentation, and at the same time a local disruptive effect that should cause damage to personnel by actual shock, or to material by its blasting effect. Explosives of this nature are known as high explosives, and are of comparatively modern discovery. Broadly, it may be said that

they are all nitro-compounds, a group of substances that contain, in a form ready for instant combination upon the application of the necessary exciting force, a combustible and the necessary oxygen for its combustion, the two being of such a nature that the products of their combination are a large volume of gas, and a high degree of heat to increase the pressure produced by the gases evolved. These high explosives are very numerous, and can be employed, either separately or mixed together, to form bursting charges of varying intensity. The essential fact about all of them that are practically used in filling shells is that they are prepared by the nitration of the products of the distillation of coal-tar. Now the distillation of coal-tar is an enormous industry, requiring the employment of skilled chemists and workmen, devoted in times of peace to the production of various drugs used in medicine, and, above all, to the production of aniline, from which spring the whole of the substances used in dyeing. We allowed nearly the whole of this industry to fall into German hands, with the result that upon the outbreak of war the enemy were magnificently equipped with plant for the production of high explosive, a plant which we have had to improvise as best we could, which is an object-lesson for the politicians.

The high-explosive shell is exploded, or rather *detonated*, by a percussion fuse, detonation being the term used when flame-propagation is practically instantaneous throughout the mass, resulting in evolution of gas so rapid and violent that the body of the shell is shattered into very small pieces. But besides this type of shell there are, as mentioned above, others, of which shrapnel is the type, designed to be

burst in air by a time-fuse. These latter consist of a tube containing bullets, with a small charge of powder in the base. The time-fuse ignites the powder, which projects the bullets from the tube in the form of a cone. The employment of shrapnel is to subject personnel to a dense hail of these bullets.

The next heading under which the improvement of ordnance may be considered concerns the material of the gun itself. We have seen how iron displaced gun-metal, but an even greater step forward was accomplished by the substitution of steel for iron. Steel forgings replaced cast-iron, and the gun began to be built up of a central tube of forged steel, round which were shrunk outer tubes and jackets to increase the resistance to bursting of the inner tube. In the days of gunpowder, owing to the nature of the explosion, which was very violent at first and rapidly dwindled to nothing, guns were made very thick at the breech and short, somewhat resembling soda-water bottles in shape. But the introduction of modern propellants, as will be explained later, made a long tapering gun possible, far easier to construct. British makers were the first to adopt a new method of strengthening the inner tube by winding it with steel ribbon under great tension, a process known as wire-winding. This has the advantage of making a gun considerably lighter for equal strength, as compared with a gun constructed solely of tubes, but it also has the disadvantage that guns so constructed are apt to be deficient in longitudinal strength, that is to say, resistance to bending, and have been known to droop at the muzzle by their own weight.

Included under the heading of the changes that have taken place in ordnance is the subject of methods

of loading. The original cannon were muzzle-loading, that is to say, the cartridge was inserted at the muzzle, followed by the shell, both of which were then rammed home into the breech end of the gun. But as the science of gunnery progressed, rapidity of fire became possible and desirable, and it was felt that if the gun could be loaded at the breech, much time would be saved, and the gun-numbers would be more easily protected. The first attempt at producing a workable breech mechanism in the British Service was made by Armstrong, who devised a removable wedge, which left a space for the introduction of the shell and cartridge, and which was locked into position by a powerful screw mechanism. This method proved a failure, owing mainly to the difficulty of securing the wedge, which was apt to fly out on discharge, with disastrous results to the detachment, and for a time British ordnance returned to the muzzle-loading system. Eventually, after much experiment, the system of breech-loading devised by two Frenchmen, Welin and De Bange, was adopted, and, with certain modifications, has been retained ever since. This system is comprised in a breech-block with an interrupted screw, which can be inserted in a correspondingly prepared recess in the breech of the gun. On rotating this breech-block, the screw-threads on it engage with those on the gun, thereby securely locking it. When unlocked, it can be swung clear, and the breech is open for loading purposes. "Obturation," that is to say, the prevention of the escape of the gases of explosion to the rear, is prevented by means of an asbestos pad, inserted between the breech-block and a mushroom-shaped piece of steel, which latter takes the first force of the explosion. The pad is

compressed axially, and expands radially against the walls of its seating, thus effectually sealing the breech. In some cases, to increase the rate of loading, the cartridge is enclosed in a brass case, which accurately fits the chamber into which it is placed, and expands against it on discharge, thus preventing the escape of gas. In such cases the mushroom-head and pad are dispensed with, and the gun is termed a quick-firing gun. In the case of light Q.F. (quick-firing) guns, the shell is inserted in the end of the brass cartridge case, and the whole loaded together. Ammunition prepared in this way is known as *fixed ammunition*. The German artillery have adopted the Krupp system of breech-loading, which consists of a sliding wedge, obturation being effected by the use of a metal cartridge case. There is probably not much to choose between the two systems.

The third heading under which improvements may be considered is that of rifling. The principle of rifling may be explained in a few words. The only possible shape for a projectile that is to be fired from a smooth-bore gun is that of a sphere. Any other shaped projectile will be so hopelessly unsteady in flight as to render its ultimate destination impossible of prediction, owing to the fact that it will not travel axially throughout its course, but will "wobble" without possibility of control. The capacity of a shell for a smooth-bore gun is therefore very small. But if an elongated object is rotated rapidly about its longer axis, it requires a certain force to change the direction in which that axis is pointing. If, therefore, some means can be provided to rotate an elongated projectile during its flight, it can be fired from the gun and will be steady and consistent in its

trajectory owing to the fact that it will travel nose first. This rotation is imparted during the passage of the projectile down the bore, and several devices were employed before the final adoption of rifling. The first attempts were made about the time of the Crimean War, when guns were produced in which the bores, instead of being circular, were hexagonal or elliptical in section, and were twisted longitudinally. An elongated projectile of similar section was thereby rotated. These devices were abandoned in favour of rifling, which consists of a series of spiral grooves cut in a cylindrical bore. A projectile with a cylindrical body is employed, fitted with some means of gripping these grooves and so being rotated. The means varied with the development of ordnance. Armstrong coated his projectiles with a thin jacket of lead, which was forced into the rifling on loading. The muzzle-loaders employed a *gas-check*, a copper plate that fitted on to the base of the projectile, that prevented the escape of gas past the shell, and had teeth on its circumference that fitted into deep grooves in the bore. In certain cases the projectile itself was formed with studs upon its surface, to assist the gas-check in rotating it. The modern breech-loading projectile is fitted with a *driving-band*, a copper ring fitted near its base, which is forced into the rifling on the first forward movement of the shell.

A rifled gun, by the employment of an elongated projectile, can throw a much bigger shell than a smooth gun of equal bore. Owing to the shape of the projectile, which, fitted as it is with an ogival head, approaches stream-line form much nearer than a sphere, the resistance offered by the atmosphere is much less, and the gun will therefore carry farther.

Lastly, owing to the better fit that a cylindrical body can be made to a cylinder than a spherical one, greater accuracy is obtained, and, owing to the decreased escape of gas past the shell, greater efficiency.

Improvements under the fourth heading concern propellants. It has been seen that the aim of a good propellant is to burn at such a rate that it will continue to evolve gases during the whole of the passage of a shell down the bore of a gun, which is made as long as possible within the necessary limits of weight. Gunpowder developed from a fine dust to a substance consisting, in the case of "Slow-burning Cocoa," of hexagonal prisms nearly two inches across. This S.B.C., as it was called, was employed as the propellant of the larger muzzle-loaders, such as the "100 ton gun," a short, fat monster with a bore of seventeen and three-quarter inches, that coughed out a half-ton shell in the midst of a stupendous cloud of smoke, and into whose capacious bowels the "district gunner" was lowered by a rope tied to his heels at the conclusion of every practice, so that he might the more effectually clean them out. Smoke was the chief defect of gunpowder, the one that induced Abel and others to seek for some propellant that should be as smokeless as possible. They succeeded in producing, by the action of nitric acid upon cotton waste, a substance that they termed gun-cotton, or trinitrocellulose, which, although in certain forms a high explosive, can be modified so as to burn slowly enough for use as a propellant. All modern "smokeless powders" employ gun-cotton in some form or other. Cordite is a mixture of gun-cotton and nitro-glycerine in certain proportions, it

being a curious fact that these two high explosives can be combined to form a propellant. Ballistite is very similar; other substances employed consist of a mixture of gun-cotton with a less highly nitrated cellulose. All these propellants can be effectively controlled in manufacture to give the required rate of burning. By their use, therefore, guns can be constructed of great length, and without heavy breeches, for instead of a high maximum pressure declining rapidly, these substances give a comparatively low maximum pressure which falls slowly as the projectile travels towards the muzzle. The modern gun, therefore, is long and tapers gradually, contrasting with the soda-water-bottle shape of the older weapons.

The last class of improvements is comprised in the mounting of the gun. The earlier pieces were fitted with trunnions, by means of which they were pivoted about their centre of gravity to a carriage, which in turn was rigidly fixed to the axle-tree carrying the wheels. Now, upon a gun being fired, not only is energy in a forward direction imparted to the projectile, but exactly the same amount is imparted to the gun in a backward direction. This latter energy is known as recoil. Consequently, when the earlier guns were fired, the whole shock of recoil fell on the carriage, which had to be constructed of sufficient strength and weight to withstand this shock. But, besides this, the backward motion of the gun was transferred to the carriage, which consequently ran back on its wheels, thus necessitating its being run up and the gun "re-laid," that is to say, directed afresh on to the target after each round. Modern guns are trunnionless, and are constructed to slide

to the rear in a "cradle," which is fitted with trunnions and thereby connected to the carriage. But besides this, a device called a buffer has been introduced, which converts the energy of recoil from a sudden shock into a steady pull of definite duration. The buffer in its simplest form consists of a cylinder filled with oil, and fitted with a piston, between which and the walls of the cylinder is a small space, to allow of the slow passage of oil from one side to the other of the piston. The piston-rod is connected to the gun, the cylinder to the cradle. Upon discharge, the gun, instead of recoiling suddenly, is made to do so gradually, by the resistance offered to the passage of the oil, thus reducing the shock upon the carriage. At the same time, the recoil of the gun compresses a series of springs, or, in more modern mountings, compresses air in a receiver. Upon the energy of recoil being expended, the energy transferred to the springs or air exerts itself, and the gun is run up again to the firing position. In the most modern mountings, the carriage hardly moves at all during firing, and several rounds can be fired in succession without re-laying.

The improvements in sighting, that is to say the actual means of directing the gun upon the target, are of too complicated a nature for description here. Suffice it to say that the modern gun-layer rarely or never sees the actual object at which he is firing, and can therefore with his gun be kept under cover in a position of comparative safety.

This brief sketch may serve to show something of the steps that have been made in the progress of artillery, until it has produced the marvellous weapons of the present war that have combined mobility with

a shell-power undreamt of a very few years ago, weapons which have made of the artillery, instead of the encumbrance of an army, as it was apt to be considered in Wellington's time, its main reliance in assault or defence, the powerful brother of the decisive infantry, to whom the latter turns for support in every crisis.

CHAPTER IX

THE EMPLOYMENT OF ARTILLERY

HAVING shown how Artillery has attained to its present stage of development, it will be as well briefly to outline the uses to which it is put and the functions it performs in modern war.

For this purpose it may be divided into two main classes, immobile and mobile. The former may be dismissed in a very few words. It comprises the armament of fortresses, either for sea or land defence. The Coast Defence Fortress, if properly armed and organized, is unassailable by direct methods of attack, as has been proved over and over again. It is usually designed to forbid the enemy's ingress into important harbours, usually because they contain arsenals and dockyards, and is rarely or never constructed with a view to opposing hostile landings. It would be impossible, under modern conditions, to surround a whole coast line with defensive forts, as was attempted by the construction of Martello Towers in the last great war. Conditions of strategy must determine the armament of the fortress. If it is considered that the Naval position of the nation is such that the Fleet can deal with any determined attempt at bombardment by the enemy's heavy battleships, it is sufficient to provide the fortress with guns capable of dealing with such raiders as might escape the vigilance

of the fleet, whether they be light cruisers, destroyers and torpedo-craft generally, - submarines, or aircraft. This purpose can be achieved with a few comparatively heavy guns placed at the outer limits of the fortress upon sites as commanding as possible, where they are practically immune from guns mounted on ships, and, in addition, a number of groups of light quick-firing guns overlooking the channel that raiding torpedo-craft would be compelled to use. The field of fire of these guns must be capable of illumination by searchlight, for a raid by torpedo-craft would almost necessarily take place by night. In addition to this, anti-aircraft guns, also equipped with searchlights, must be placed in a ring round the fortress. Perhaps it may be as well to explain, in parentheses, that a fortress is an area surrounded by defences of any or all kinds, a fort merely a unit of such defences themselves. If the naval position of the nation constructing the fortress is not such that the fleet can guarantee its immunity from determined bombardment by battleships, the defences must include the heaviest natures of ordnance, such as are capable of inflicting serious damage upon the assailants. Coast Defences of this type are in a strange position. Guns and personnel of the most expensive and highly trained natures must be provided, with the practical certainty that they will never be called upon to employ their might and science. After the lessons of this war, and of the many that have preceded it, no admiral will dare risk the crippling of his battle fleet by engaging first-class Coast Defences. Yet, if they did not exist, dockyards and the like would be in hourly peril of bombardment, despite the comforting assurances of the "Blue-water School."

We have seen how easy it is for single vessels or even squadrons to elude the vigilance of the most perfectly organized patrol, the exploits of the *Goeben* and *Breslau* in August, and the *Von der Tann*, *Derfflinger*, and their consorts at Yarmouth on November 3rd, 1914, and at Scarborough and Hartlepool a few weeks later, have taught us that. Minefields, unprotected by the fire of guns on shore, can be swept. Coast Defences must therefore be provided, and, by their very existence, must be condemned to inactivity. A cheerful prospect for the unfortunates whose business it is to man them, but another most excellent example of the deadlock that ensues when, in the perpetual race between them, the defensive gains an advantage over the offensive.

With regard to fortresses constructed inland, so much has been written and so fierce a controversy has raged that it behoves one to write delicately. A fortress of this type has hitherto consisted of one or more rings of forts, containing guns of position, and connected by defences of a semi-permanent nature, barbed-wire entanglements, and the like. Now this war has proved many things in relation to such fortresses. Modern heavy artillery can destroy, or, at all events, render untenable, any fort containing guns of position that can in practice be constructed. Such heavy artillery can be rendered comparatively mobile, and can therefore be brought up to engage the forts. The only possible immunity from destruction that can be secured by artillery, either of the attack or the defence, is by concealment. A fort cannot be concealed, its position is known and can be accurately placed upon a map, but a mobile land gun, unlike a gun mounted on a ship that sails the

sea where no concealment is possible, can be brought up without the knowledge of the defence, and concealed from its observation, even that of its reconnoitring aeroplanes. Further, if its position be discovered, it can be moved to a fresh one. The corollary to these facts is obvious. A fortress of this nature must always be reduced by an enemy possessing heavy artillery, unless, even after the demolition of the outer ring of forts and thus deprived of artillery support, except that of light field pieces, the infantry can continue to occupy a line of defence, so far advanced that the artillery of the attack cannot get within range of the vulnerable parts of the fortress itself. This being a practically impossible task, unless the garrison is capable of continuous and effective reinforcement, the fall of such a fortress cannot be long delayed. It is certain that great defensive schemes such as surrounded Liége, Namur, or Antwerp will never again be constructed.

The war is not yet over, its future contains many military lessons hitherto unexpounded. But perhaps it is possible to forecast the land fortress of the future. The frontiers of the country itself will be the boundaries of its fortresses, every land frontier will be protected by line after line of prepared trenches, with every detail, as dug-outs, communication trenches, and the like, ready for immediate occupation. Artillery positions will be searched for, noted, and allotted to the batteries that will occupy them on mobilization. It seems difficult to imagine any other plan, until some new development of the science of war again gives the attack the ascendancy over the defence. There is no finality in such matters, this war no more defines the last word in military science than did the

campaigns of Scipio or Fabius Cunctator, nor will its close usher in the millennium of perpetual peace any more than did the fall of Troy or of Carthage. War is a necessary condition of human existence on this planet ; may we never again be lulled into false security by the insidious flattery of the peacemongers !

Immobile artillery, therefore, suffers under a curse, that of being a purely passive menace in the case of maritime defences, and of being under the threat of certain destruction in the case of land defences. It now remains to consider the position of mobile artillery that can participate effectively in both defence and attack.

Mobile artillery comprise all that are not permanently mounted in a fixed position. Guns mounted on battleships, cruisers, torpedo-craft, monitors, on wheeled carriages, on railway trucks, or carried by men or animals, are all included in the term, and are capable of the same treatment, namely, of being brought to bear upon any desired target, of temporary concentration or dispersion. The problems affecting guns afloat need not concern us, and we may devote our attention to the use of mobile guns on shore. The first point that deserves attention is that of mobility itself, which is purely comparative, and extends from the Horse Artillery weapon, that can be driven at a gallop over practically any country, and brought into action in a few seconds, to the heavy howitzer drawn in sections by motor-tractors, and taking several hours for its erection. Weight and mobility are mutually incompatible ; as the mobility of a piece of ordnance increases, its weight, and therefore shell-power, must decrease, and vice versa. An exception to this rule is a heavy gun mounted on a

railway truck, but the use of such a weapon is strictly limited to existing railway lines, and its position is consequently very difficult to conceal from hostile aircraft.

The British Army entered the war with five distinct gradations in mobility of its Artillery, which were as follows :

Mountain Artillery, manned by the R.G.A., consisting of batteries of six very light guns, firing a ten-pound shell, and capable of being taken to pieces and carried by man-power to almost any position that an infantry soldier could reach.

Horse Artillery, manned by the R.H.A., consisting of batteries of six light quick-firing guns throwing a thirteen-pound shell, drawn by six horses and capable of being driven at a gallop over any ground that the carriage would ride over without overturning.

Field Artillery, manned by the R.F.A., consisting of batteries of six heavier quick-firing guns, throwing an eighteen-pound shell, drawn by six horses and capable of being driven at a trot over any average country.

Heavy Artillery, manned by the R.G.A., consisting of batteries of four comparatively heavy guns, throwing a shell weighing sixty pounds, and weighing itself behind the teams about four and a half tons, drawn by eight heavy draught horses, and capable of being driven at a walk or slow trot over good, firm ground.

Siege Artillery, manned by the R.G.A., consisting of batteries of four medium howitzers, throwing a shell weighing a hundred pounds, and weighing itself behind the teams about five tons, drawn by eight heavy horses or a three-ton petrol-lorry, capable of

being driven at a walk along roads and across firm, level country.

The Field Artillery also possessed a certain proportion of batteries of six light howitzers, throwing a shell weighing forty-five pounds, and of the same mobility as field-gun batteries.

The Territorial Force Artillery consisted of Horse Artillery, with the same equipment as the Regular Artillery, Field Artillery, equipped with a fifteen-pounder in lieu of an eighteen-pounder, and a five-inch in lieu of a 4.5 inch howitzer, and Heavy Batteries equipped with a 4.7 inch gun in lieu of a sixty-pounder.

New Army Artillery consisted of Field Artillery and Heavy Batteries, with the same equipment as the Regular Artillery.

All Territorial and New Army Batteries contained four guns only.

In addition to this, a large number of Siege and Heavy Batteries have been formed, the former equipped with medium and heavy howitzers and guns heavier than the sixty-pounder, the latter with sixty-pounder and 4.7 inch guns.

The most important German weapons are the 77 millimetre field gun, the 10 and 15 centimetre (4.1 and 5.9 inch) heavy guns, the 10.5 centimetre field howitzer, and the 15, 21, 28, and a few 45 centimetre heavy howitzers.

The ideas underlying the employment of Artillery, composed as above, form a special branch of the tactics of modern warfare, and a rough sketch of these tactics may not be without interest, for without a knowledge of the principles underlying it, the part played by the Artillery in war is difficult to realize properly.

The object of Strategy is to impose one's will upon the enemy, and the conflict that must sooner or later follow such an aim may be divided roughly into two classes, battles of position and battles of movement. The former occur when either side is attacking a position resolutely held by the other, the latter when one side is advancing or retreating continuously, the retreating side merely holding certain positions to gain time for a general retirement to some farther point. Battles of either nature involve the necessity for continuous attack and defence; if neither side attacked, there could be no battle. But attack or defence may be purely local and momentary, the side that is strategically on the defensive may, and usually does, strengthen its defence by attacking its adversary at various points along the line of battle. It is a maxim of war that the attacker possesses all the tactical advantages, he can select his objective, and concentrate his forces against that objective, whilst the defender is compelled to distribute his forces over his whole front. Further, the choice of time is with the attack.

One other strategic principle is worth a moment's consideration, the principle of interior and exterior lines. This is best understood by imagining a nation engaged with others who are operating upon various sectors of the former's frontiers, as is the case with the Central Powers and the Allies. The former may be considered to be holding the circumference of a ring, and are said to be acting upon interior lines, whilst the latter are operating outside the ring, and are said to be acting on exterior lines. The advantages of the former position are obvious. Whether the nation so situated is strategically upon the offensive

or the defensive, whether the ring is in process of expansion or contraction, it can work from one central base, whose distance from any point of the circumference of the ring is never very great, and whose lines of communication are safe from the menace of interruption, being all within the zone of its own armies. Further, it can effect any desired concentration by short cuts across the ring, whether for purposes of attack or for the rapid bringing up of troops to defend any threatened point. But the nation or nations operating on exterior lines are in a very different position. They must establish many scattered bases at various points outside the ring, whose distances to different points on the circumference vary considerably, and whose lines of communication are open to attack by hostile raids, naval or military. Concentration at any point can only be effected by moving troops along routes that follow the circumference of a ring, the distance between any two points upon it being necessarily greater than that to be traversed by the enemy. An extreme example of this is the comparison between the ease with which the Germans can move troops from the Eastern to the Western fronts, direct by train across Germany, and the transport of Russian troops to the French Front via Vladivostok, Singapore, the Suez Canal and Marseilles. The comparative distances are worth measuring on a map.

With these preliminary remarks, we may return to the actual functions of the Artillery, and the part it plays in battles fought under these varying conditions. But before doing so, it must be clearly realized that infantry is the arm that decides every battle, the artillery exists only to support it. But the two

arms must work in conjunction, infantry cannot work without the assistance of artillery, and artillery may waste thousands of rounds and secure no permanent advantage unless the infantry are prepared to follow up such success as it achieves. Co-operation, therefore, is of the utmost importance, and, it may be said in passing, the most difficult thing to ensure in practice.

We will consider the Battle of Movement first. In practice, this resolves itself into a retreat on the one hand, during which retreat it is the object of the army conducting it to delay the advance of its opponent by every means in its power, and a series of attacks and pursuits on the other hand. The retreating army takes the advantage of every defensible position that it reaches to give battle to the enemy, and, having done so, withdraws at the most favourable moment, leaving him too exhausted and disorganized to harass its further retirement. In other words, the armies will fight a series of engagements, in which the retiring army is generally on the defensive, the advancing army on the offensive. Suppose the former to have reached a position where it is prepared to give battle. Its artillery will be placed in concealed positions as a preliminary, and these must be such as to allow of being rapidly abandoned. The long-range and heavier artillery will "register" such points as the enemy's troops must pass in their advance, and must be prepared to open fire upon them at any period of the night or day. The lighter artillery will in like manner register the ground immediately in front of its own infantry, who at this stage will be engaged in putting their line in a state of defence, digging trenches, clearing a field of fire in front of them,

placing obstacles and so forth. As soon as the enemy comes within their range, the heavier artillery will open fire upon him, forcing him to deploy or open out his forces as much as possible. They must attempt, with the assistance of aeroplane reconnaissance, to search out and render untenable the localities where he is endeavouring to place his batteries, and also to discover and shell the positions where his troops will be massed. During the period in which he advances to the attack, which he must do to within a few hundred yards before he attempts an assault, the lighter artillery must cover him with a hail of shrapnel and make his progress as costly as possible. If the defence is only a ruse to gain time, and the retiring army are not disposed to risk the consequences of assault—for once infantry are definitely engaged it is impossible to break off the battle without incurring severe loss and possible annihilation—the withdrawal will take place at this stage. If, however, it is determined to withstand an assault, this phase will continue until the enemy has prepared the position from which he intends to launch his infantry upon the defender's position. As soon as his intentions are manifest, a proportion of guns will be directed upon the enemy's advanced lines, and upon the places where it is thought that his troops are massed. The enemy will betray the time of his assault by a vigorous preliminary bombardment, during which time artillery fire will be directed principally upon such of his batteries whose position is known, but in general ammunition will be reserved for the actual moment of assault. The old idea of an "artillery duel" is exploded, ammunition is far too valuable for it to be expended on uncertain targets, and now

that indirect fire and the consequent possibility of concealment is practised, the position of a battery is very difficult to define exactly. Further, the chance of actually destroying a battery situated under cover is very small. It may be possible to silence it for a time, by making the situation of the gun-numbers impossible, but nothing short of direct hits on the guns will destroy it.

Finally, the assault will be launched, and during its progress it will be the duty of every battery to pour a torrent of shell upon the ground over which the attacking infantry are advancing, and upon the positions from which they issued, for in these positions must be massed the supporters of the attack. This is the critical phase of the attack, in which artillery must sacrifice itself without scruple, cheerfully offering itself to certain destruction, if by so doing it can inflict corresponding damage upon the infantry. At Loos, the Germans deliberately placed at least one battery in a position from which there was no chance of escape, knowing that it would inflict far more damage upon our infantry than would be compensated for by its destruction or capture. It is too frequently apt to be a maxim that guns must be saved at any cost, whereas the deliberate sacrifice of a few batteries may often carry with it far more than compensating advantages.

If the assault is successful, fire must be directed upon the ground captured by the enemy, to prevent his consolidating his gains. The great object to be kept in view is that the pressure upon the infantry must be relieved at all hazards, they must be given time to recover and collect for a counter-attack, and their wishes must be served in every possible way.

Only artillery so regulated is capable of developing its utmost efficiency.

The artillery of the attack has an entirely different rôle to perform. As soon as the advancing force gains touch with the defender's position, it must make every attempt to discover the batteries that menace its own side's advance, a duty that will usually fall to the heavier units. At the same time the lighter units must pick up concealed positions as rapidly as possible, and from them endeavour to hamper the defensive operations of the enemy. He must be allowed no rest, bearing in mind that respite from being harassed is his chief aim, and intermittent fire must be constantly directed upon his billets and bivouacs, if such can be discovered, to destroy any sense of security that he may harbour. Before the assault is launched, a deliberate bombardment of his defences must be undertaken, care being taken not to show any indiscriminate intensity against any point where a decisive attempt is to be made. The object of this bombardment is to destroy the defences as far as possible, to render them untenable by the defending infantry, and useless as cover from which to repel the assault. The bombardment must be intensified as the infantry dash commences, and at the same time the heavier weapons must endeavour to silence the batteries that impede their advance. As soon as the infantry arrive so close to the defences that they are in danger of being injured by the fire of their own guns, fire must be "lifted" upon the defender's support and reserve positions, and upon any communications by which he can pour fresh troops into his lines. If the assault be successful, the final test will be made of the artillery's efficiency. It must, if

necessary, abandon its covered positions and come out into the open, risking destruction in the effort to follow up the progress of its own infantry. If the latter are deprived of artillery support, they will be obliged to retire or be annihilated as they continue to advance, and during such a retirement, however skilfully it may be carried out, they are bound to suffer enormously. But this artillery advance must not be haphazard, or disaster will ensue. The *locale* of a possible advance must be carefully studied beforehand, positions where the maximum of cover can be ensured marked down, and these positions occupied at the greatest possible speed at which the battery can be moved. During the battle of Loos, one of our batteries advanced to support the infantry with no apparent predetermined plan as to where it was coming into action, and, as a consequence, was leisurely wiped out by a hostile battery whose observers could watch the whole proceeding. And on the subject of observers it may be said that a few shells devoted by the artillery of the attack upon probable observing posts are more likely to hamper the artillery opposed to it than thousands of rounds fired "into the blue" towards batteries whose positions are only approximately known.

Such, very briefly, are the principles that underlie the employment of artillery in the battle of movement, and they are much the same as those of the battle of position. The old idea of the regular siege, as defined in the text-books, is moribund, very rarely will it be necessary for an army to sit down before a fortress to reduce it, as in the classic example of Sebastopol. The battle of position has resolved itself into what is known as trench warfare, and any determined attack

by either side becomes a local battle of movement, such as Neuve Chapelle, Loos, or Verdun. The every-day life of trench warfare is nothing but mutual unpleasantness, where each side endeavours to harass the other as much as possible. Artillery tactics develop into those of a pair of antagonistic neighbours. One fine evening one of these restless gentlemen throws a basketful of weeds over the fence. His neighbour replies with the contents of the pig-bucket; whereupon the first triumphantly projects a dead cat into the row of sweet-peas. So it goes on until they are hard at work breaking one another's windows. Exactly the same procedure takes place with artillery in trench warfare. At one point in the line we had a regular routine. The Boche would throw a peculiarly noisy trench-mortar bomb into our trenches just as our men were enjoying their afternoon siesta. One of our field batteries would reply with half a dozen salvos of shrapnel over their trenches. They replied with ten-centimetre "Universal" in the direction of our observation posts. This would be my cue, and I would be ordered to drop a few rounds of high explosive into a communication trench that the enemy were very proud of. Within a few minutes an equal number of corresponding shells would fall into the square of an unfortunate village a little way behind our lines. So the fun would continue, until we all got tired of wasting ammunition, and went to sleep again. This game is officially known as "retaliation," and is played with variations all along the line. The position of artillery, especially heavy artillery, is a difficult one. It never has enough ammunition to employ it incessantly, it never could have, under any possible circumstances;

it is so much easier to fire a round than it is to manufacture it. Consequently it is always saving up for a big "show," and in so doing incurs the anathema of the infantry, to whom this everyday routine is all a preparation for a "show" of some kind, either local or of definite strategic importance. They love to see heavy shell dropping in the trenches in front of them, and cannot imagine why we cannot be always at it. We, having some idea of the hunger of the guns our masters, and the appallingly short time in which they can dispose of a few tons of carefully hoarded rounds, are naturally reluctant to fall in with their views. So the matter continues until orders are issued for one of those small "side-shows" that relieve the monotony of trench routine.

A few words may be expended on such side-shows. We read of small gains or losses here and there, but can form no definite picture of what such actions really entail, or how they are carried out. They are, in fact, battles of movement on a very small scale, and are of surpassing interest and excitement, not so much for their intrinsic importance as for the light they throw upon the life of a soldier in these days. Before one of these minor operations can be attempted it is absolutely necessary that the most careful reconnaissance be undertaken, and that perfect co-ordination exists between the batteries that are to take part in it and the infantry who are about to assault. This having been done, and it having been decided to make an attempt upon a certain length of hostile trench, the preparatory phase commences. Men are brought up in the required numbers, and batteries are posted where they can most effectively use their fire. The infantry make

gaps through the obstacles in front of their own trenches. Immediately these preparations are completed, the actual assault takes place. So far as the artillery are concerned, this presents two problems, the destruction of the enemy's obstacles, and the prevention of his means of resisting the attack, which are, of course, rifle-fire from his trenches and artillery-fire from his concealed batteries. The first problem bristles with difficulties. To destroy wire, without leaving it in a worse tangle than it was before, and without covering its site with craters almost as difficult to cross as the obstacle itself, is very difficult. But, apart from this, it is often nearly impossible in a flat country to find a point from which the officers directing the fire of the artillery can see the wire sufficiently well to destroy it effectively. It is very little use observing from the front trench on such an occasion, the view is so extremely limited that, although it may be possible to cut a gap in the wire immediately in front of the observation post, it is impossible to be sure of destroying anything at all to a flank. Time is of vital importance, if the enemy sees wire being cut in front of a certain section of his trench, he naturally infers that an attack upon it is in preparation, and takes measures accordingly. The destruction of obstacles efficiently and rapidly is a very serious problem, and can hardly yet be said to have been solved. It was the failure to do this that rendered the attack upon Hulluch on October 13th, 1915, abortive, and in every big "show" the same has been experienced, at Neuve Chapelle and on the left flank of the Loos attack especially. It must therefore be always realized that some wire will be left to be cut by hand, and thus the problem of the destruction of

obstacles melts into that of keeping under the fire of the hostile batteries and infantry during the progress of the attack itself.

Enough has already been said about the difficulty of suppressing artillery-fire to show that it is far easier to keep the hostile rifle-fire quiet than it is to keep the batteries quiet. During the German assaults before Verdun, it was noticeable that the assaulting columns were not so much worried by rifle-fire from their objective as by the storm of shell-fire from batteries which they were unable to silence. The batteries are hidden, their exact locality is unknown, it is a sheer fluke if even a single gun is put out of action. But the trenches stand out for all men to see; no observation officer fit to wear the gun in his hat can fail to hit them. It is therefore best to concentrate the fire of the lighter batteries upon the trench to be attacked and its supports, and to leave to the heavier weapons the unenviable task of trying to keep the hostile guns quiet. A few medium howitzers will be required to destroy machine-gun emplacements at this stage. As soon as the bombardment has continued for a certain definite time, the infantry charge across the space between the trenches, and here again a very difficult problem confronts the artillery. If fire is maintained too long, the infantry come into the zone of it and suffer accordingly. If it is abandoned or lifted too soon, time is given to the enemy to man his parapet and bring a withering rifle-fire to bear upon the advancing columns. This again necessitates almost instantaneous communication between guns and infantry, a matter that is not so simple as might appear.

When the infantry have captured a length of the

enemy's trench, they instantly proceed to establish themselves there, by reversing its direction, bombing along it in each direction till it is clear of the enemy, and then erecting barricades. They must expect counter-attacks during the time that this work is proceeding, and the artillery must do their utmost to support them. From the very fact that they are in a trench, they are comparatively immune from rifle-fire, but the hostile artillery will endeavour to overwhelm them with high explosive, and so destroy the trench altogether. Every attempt must be made to silence these batteries, hopeless though such attempts may appear, and fire must also be directed upon the trenches surrounding the new position to prevent men massing in them for the assault of the captured position.

If all goes well, the infantry will endeavour to extend their holding of the captured trench, both laterally along the trench they already occupy, and by capture of second and third line trenches in front of their new position. The latter operation is merely a repetition of the previous tactics, the former is effected by a bombing-party, who fight their way along the trench to right and left. This party should carry a signal of some kind visible to the artillery observations officers, who direct the fire of their guns upon the trench, in advance of the progress of the bombing-party.

When the infantry have extended their gains as far as possible, the captured trenches are connected up to the old line, and form a part of the trench system. This having been done, the minor operation is over, and life in that particular sector falls back into the accustomed groove, until the enemy makes an attempt

to recapture his lost trenches, or another bite at the hostile line is planned. Then minor operations commence again, and in the former case the artillery becomes the artillery of the defence. It has now practically only one duty, to cover the trenches from which the attack is issuing and the ground in front of them with such a tempest of shrapnel and high explosives that the assaulting columns are crushed and broken before they can reach their objective. If it fails in this duty, and the enemy contrives to gain a lodgment in the trenches, it must pound the captured area with heavy high explosive until it affords no cover to him, no shelter in which he can form a *point d'appui* for further offensive measures. The Germans are in the habit of registering their own trenches, and though this involves withdrawing the infantry from them for a few minutes and subsequent rebuilding of any part of them actually hit, it seems a good plan, for minor assaults will frequently take place at night, when observation of fire is impossible, and reliance must be placed upon ranges previously discovered.

From the above remarks it will be seen that the Artillery must strive daily to solve the problems that are before it, with a view to its participation in minor operations no less than in battles of strategic importance; for upon its degree of preparedness may often depend the success or failure that attends an attempt of any magnitude, be it small or great. A further consideration of the nature of some of these problems is reserved for the next chapter.

CHAPTER X

SOME ARTILLERY PROBLEMS

THE practical development of aircraft has had a very great effect upon artillery tactics and problems. Before their advent, indirect methods of fire were nearing perfection, and it may be safely postulated that, if aerial observation did not exist, the position of a modern well-placed battery would be impossible to discover. Indirect fire may be defined as a method of fire control by which one man, who can see the target from a point which has no relation to the position of the battery, directs the fire of his guns upon this target, they being in a position from whence they can see nothing of what they are firing at. The methods by which this is done are rather complicated, too much so for explanation here, but it may be roughly stated that the battery commander, either by the trigonometrical solution of a triangle, or by the use of compass bearings, lays his guns so that they point towards the target. The gun-layer measures the angle which the direction in which the guns are pointing when so laid makes with a line from the guns to some conspicuous object in his vicinity, and then uses this object to lay his gun with from round and round. When this method is employed, it is obvious that in the absence of hostile aerial reconnaissance, the battery need only be placed behind something

that will hide it from the enemy's view, such as a fold in the ground, a group of buildings, or a wood, to render it undiscoverable.

But the use of aircraft introduces a new complication, and they worry the artful gunner in two main forms, captive balloons and aeroplanes. The first are sent up from positions behind the enemy's lines, and give him an enormously extended field of view over intervening obstacles, the second fly over the very battery positions themselves, and endeavour to detect them from above. Both are therefore very valuable aids to the enemy's artillery, both in detection of battery positions and in subsequent direction of fire upon them, and some account of the methods by which they perform these services will not be out of place in the consideration of artillery problems.

The first stage of this work is reconnaissance, the discovery of hostile dispositions, of which the detection of enemy batteries is a very important part. This work is mainly undertaken by aeroplanes ; the duty of observers in captive balloons is more to keep under observation objects that have already been located by mobile aircraft. To understand the former's method of reconnaissance, it is necessary to grasp the fact that modern armies live upon maps, and more especially the artillery and flying arms. In modern warfare, a gunner without a map is a useless incumbrance, he is incapable of exercising the finer arts of his profession, and is helpless in the face of information and reports sent in to him. Every observation officer is provided with a map upon which is marked all the information possessed by his own side, the lines of the hostile trenches, their communications,

specially strong points, such as redoubts along their length, even the situation of suspected machine-gun emplacements. This map is so ruled, lettered, and numbered that the position of any point upon it can be indicated by means of a combination of letters and numbers, so that the possessors of copies of the maps can convey to one another the position of any object of interest. Information is circulated daily as to any discoveries that may have been reported by aeroplane or artillery observers, such as the positions of batteries, movements of troops, enemy's billets, and so forth. The artillery observation officer keeps his map up to date by this means, and so gradually learns the hostile dispositions in the country before him.

The making of these maps is an interesting process. The original map, so far as it concerns natural features, is enlarged or reduced from existing maps of the district, of which the best are the admirable French *Plans Directeurs*, by the Ordnance Survey branch of the Royal Engineers and the Geographical Section of the General Staff. A certain amount of extra detail is added, and also military place-names of important significance, such as "Lone Tree," "Tower Bridge," and the like. Then the reconnoitring aeroplanes commence their activities, taking photographs of the country spread out beneath them, and from these photographs the detail of the enemy's trenches (which show with surprising distinctness on the prints) are inserted on the maps. New editions are constantly issued, upon which are marked any new features that have been verified with certainty, and so the map grows towards completeness. The artillery observer has only to compare his map

with what he can see in front of him to be able to open fire upon any target that is indicated to him by its combination of letters and numbers. A simple task, in truth, but one that takes a lifetime of careful study to perform quickly and accurately. Country looks so utterly different, viewed from an observation post only a few feet above its general level, than it does as set out upon a map.

So much for the work of the aeroplane as far as maps are concerned. The next service that it renders to the gunner is to carry out his observation for him when no place within his own lines exists from which he can see his target. It frequently happens that it becomes necessary for a battery to engage a target that is invisible from its own observation posts, and then, after a hasty series of unavailing calls upon others whom, he thinks, may be able to see it, the observation officer reports that he requires the services of an aeroplane. In due course one is provided for him, and arrangements are made to carry out the shoot. The first step is the provision of means of communication between the battery and the aeroplane, in these days wireless telegraphy almost invariably, a portable set is installed in the battery, and a similar set is carried by the aeroplane. The observer in the latter machine is provided with a device by which he can estimate the distance and direction of the place where each round falls from the target. The battery commander, seated by the wireless apparatus, fires his first round, judging his direction and elevation from the map. The aeroplane tells him where his shot fell, and from this information he corrects for his next round. So the series continues until he has achieved his object or fired

the number of rounds allotted to this particular purpose.

Aeroplane observation has its advantages and disadvantages, the former being mainly the fact that the observer in the air can see definitely where the rounds fall, as upon a map, whereas the observer on the ground can only hope to say any given round was over or short, right or left, and can hardly even estimate how far. The disadvantages are that it is very easy for the observer and the battery commander to get at cross-purposes as to what really is the actual target, the battery commander has never seen it, and has, after all, only a vague idea of what he is firing at. Further, there exists the great disadvantage, which is, perhaps, mainly psychological, but which is none the less real, that the man who is observing is not the man who is correcting the fire of the battery. It is so much easier to see one's own shell falling and to correct from personal observation than to examine any one else's results, however accurate, and base one's direction of fire upon them. There appears to be no valid reason for this phenomenon, but experience has taught the truth of its actual existence.

So far we have assumed that the aeroplane has been allowed its own way entirely, but in practice it is far otherwise. Active defence against its inquisitiveness is provided by anti-aircraft guns, and by aeroplanes fitted with machine-guns; passive defence by all manner of ingenious devices for concealment. Anti-aircraft guns may be either guns of position or mobile guns, and suffer consequently from the same considerations that apply to guns designed to fire in the horizontal plane. Guns of position are soon discovered by aircraft, and their localities avoided, their only

legitimate function being the protection of permanent bases and the like. Mobile guns, on the contrary, can be shifted from day to day, indeed they must be, for the aeroplane at which they fire will report their position to hostile batteries, which will do their best to make their position as uncomfortable as possible. The usual type of anti-aircraft defence, is, therefore, a light quick-firing gun mounted on a motor-lorry, which can be rapidly moved about from place to place. The ammunition it employs is shrapnel, which it endeavours to burst just beneath and close to the aeroplane, so that the bullets, as they proceed on their course, may strike some vital part of the machine and bring it down. The problem before the anti-aircraft gunner is an exceedingly difficult one. An object on the ground moves only in two planes, forward or backward, or from side to side, whereas an aeroplane moves in a third plane at the same time, up and down. Further, there are no fixed points in the atmosphere by which its relative movement can be estimated, or the burst of the shell about it judged. At the risk of incurring the wrath of a sorely tried section of the Regiment, I dare make the suggestion that the true function of the anti-aircraft gun has been proved to be to keep reconnoitring aeroplanes at such a respectful height that their observers cannot perceive details on the ground beneath them. This refers, of course, to their use against aeroplanes alone. Captive balloons exist apparently for the express purpose of infuriating otherwise peacefully minded commanders of long-range gun batteries. The sausage-like monstrosity floats in the sky serenely, at a distance of some eight or nine miles from the battery, and to attempt to bring it down with shrapnel at that range

is about as hopeless a task as can be imagined. It is utterly impossible to judge whether one's shells are bursting in front of it or beyond it. The best plan is to use an aeroplane, and fire at the spot on the ground to which the balloon is tethered with high explosive, in the hope of cutting the rope. It is very heartening to see the unlucky aeronauts floating gracefully in towards one's own lines.

Perhaps the most suitable defence against the reconnaissance of hostile aeroplanes lies in the provision of fast-climbing machines, fitted with machine-guns, such as the famous German Fokker. They inspire a much more healthy fear than do guns on the ground, and are consequently far more effective in keeping inquisitive visitors at a distance. Whatever means are employed, the great art is to keep the pilot and observer at as great a height as possible, and to busy them with concerns for their own safety. If this is successfully accomplished, they will not return to their base with much information that will be of use to their side. But probably the best form of defence is careful concealment, at all events as far as batteries of guns are concerned. It is obviously impossible to conceal farm-houses and other buildings, and the fact that they are being used as billets cannot long be withheld from the enemy. Nor is it possible to conceal the main lines of communication, or strong points behind the line. All these are certain to be discovered and to be subjected to occasional bombardment. But it is possible to conceal the position of a battery, and this concealment may be so effective as to render the battery immune from any hostile notice whatever. It is impossible to bombard a whole countryside; the question of sufficiency of

ammunition for the purpose crops up at once. It is only possible to shell such points as are suspected of harbouring targets of interest, and until suspicion is aroused they must necessarily escape. But this very security works both ways, for if our batteries enjoy an almost complete immunity by reason of their own carefulness, it is equally difficult for them to perform their function of bringing fire to bear upon hostile batteries. It has been pointed out in a previous chapter that the chief duty of the artillery of the offensive is to silence the batteries of the defence, but before this can be accomplished the positions of these batteries must be discovered. If a battery can conceal itself and remain silent until the crisis of battle it is pretty sure to remain undetected. Of course the greatest care must be taken. Sentries must be posted to give warning of the approach of hostile aeroplanes, and, when such are sighted, every man must get under cover and remain absolutely still until the machine has gone. Further than this, all tracks leading to the battery position must be obliterated, few things are so visible as wheel tracks across grass or ploughed fields, even "bully beef" tins lying about are an indication that the spot is occupied by somebody. And then, when the battle begins, even if all attempt at concealment is abandoned, and the guns are allowed to fire at their extreme rate, regardless of the watchful eyes in aeroplanes and captive balloons, the probability of the battery being shelled is still remote. It is no easy matter to convey the right information to the right person for him to act upon it, at any period, even one of comparative quiescence, and it is practically impossible during the height of a battle. It is more than likely

that the battery's activities will pass unnoticed at the time, but it will usually be wise to shift its position as soon as possible. Sooner or later the information as to its discovery will filter through to the right quarter, and when that has happened Nemesis is not far off.

This brings us to a consideration of the methods by which hidden batteries are discovered, and of these methods the chief is to watch, either from the air or from the ground, for the flash of discharge, which is the one thing the gunner cannot conceal. The invention of nitro-powders and their adoption as propellants did away with the difficulty of the cloud of smoke that betrayed a gun, but the flash remains, even worse than before. It can be seen for miles, even in daylight ; indeed, a battery hidden behind the crest of a low hill or a range of buildings will often show a flash above them at midday. At night it lights up the whole heavens. It is a very good scheme to station trained observers (and they must be very carefully trained too ; inexperienced men will send in the most extraordinary results) on two or more commanding points for a short time after dusk each evening. These men synchronize their watches, and watch for the flashes of hostile guns. As soon as they see a series of flashes from approximately the same direction, they note down the time of their doing so, and by means of a compass or other instrument, ascertain the bearing of the flashes from their own position. If they can be connected by telephone for mutual consultation, it will be of great advantage. The results of their observation are subsequently compared, and the bearings of flashes noted by each simultaneously plotted upon a map. The inter-

section of the bearings will give the position of the battery. This method is obviously open to several inaccuracies, and it should not be relied upon to give definite results, but it may often serve to provide reconnoitring aeroplanes with a hint as to whereabouts to search.

The aeroplane is the surest means of discovering hidden batteries, and here again it is their flash gives the latter away. It should be the rule of every battery never to fire when a hostile aeroplane is anywhere about, its attention is sure to be attracted, and even if the exact position is not discovered, the area from which the flash came is certain to be kept under observation, and the chances of ultimate discovery are enormously increased. Many attempts have been made to diminish the actinic power of the flash, by incorporating with the charge various chemical substances, but so far without success, the usual result of such additions being to substitute for the bright flash a cloud of smoke, which is, if anything, worse.

A clue to the position of a battery may sometimes be gained by timing the interval between the report of a gun and the fall of its shell. By reference to the range-table of the gun a pretty close estimate can be made as to the distance of the battery from the place where the shot fell, and a circle drawn with this point as centre and the distance shown in the range-table as radius will very often pass through places which have previously been regarded as suspicious. This is, of course, a very rough method, but, failing any other evidence, it may be of use. It is mentioned for the purpose of showing how manifold are the duties of the complete artillery observer.

Whatever methods are employed, the suspected positions should be noted on the map, and evidence collected until the suspicion becomes a certainty. It is almost the most important duty of heavy long-range guns to silence the batteries opposed to them, and every trifle that leads to this end must be carefully treasured, for only by so doing can the end be reached. And with the question of long-range guns comes one of the great problems of their employment, the question of how their fire is to be observed, for unless the fall of their rounds can be seen and communicated to the battery commander, so that he is able to correct them, the fire of the battery, except under certain circumstances, will be ineffective. It is obvious that no observing officer, however favourably placed, can see from a point within his own lines to a target several miles behind the enemy's lines. This rules out the direct method of observation. Nor, in the course of a battle, would it be possible to employ aeroplanes. They would probably be otherwise engaged, and, in any case, would find it impracticable to pick out from the general bombardment the shells fired by the particular battery for which they were observing. Only two methods remain, that of firing by the map, or of previous registration. The former method is one that can never be trusted. It consists in giving elevation and direction to the gun according to the distance and bearing of the target as shown by the map, with any corrections that experience may show to be advisable, and subsequently altering rounds by a few yards each way on the off chance that a lucky fluke will score a hit. The latter method is preferable. It consists of having a few shots at a target one quiet day with

aeroplane observation, and recording the laying of a round that is observed as a hit. When it is desired to repeat the performance on another occasion, a calculation is made for any different conditions, meteorological or otherwise, that may prevail, and a series fired with the previous laying so corrected, in the hope that some of the rounds will hit the target, which, strangely enough, they sometimes do.

The whole question appears to be, Is long-range firing really necessary? Hostile batteries are very rarely so far behind their own lines that a really long-range gun, of greater range, than the sixty-pounder, is needed to reach them. The only targets left for long-range batteries are therefore points of strategic importance, such as railway-stations and the like, and our elusive friend the captive balloon. The former are probably more easily attacked by bombs dropped from aircraft, the latter may have to be regarded as a necessary nuisance. It is most improbable that the damage done by long-range fire repays the trouble of the provision of guns and ammunition for the purpose. The Germans do not appear to trouble much about it. They possess a few guns of great range, probably dismounted from ships, with which they occasionally send a few shells into the most unexpected places, mainly, one imagines, by way of a joke. Dunkirk, Béthune, Auchel, the latter place thirteen good miles from the nearest point of the German line, have all experienced this adventure, but the damage done has in every case been comparatively slight. Now if we are content to limit the range of our heavy ordnance to six or seven miles, which, except for fancy shooting, is ample, we can employ howitzers instead of guns, and

so divide the weight of that same ordnance by three or four, while still retaining the same weight of shell. The advantages possessed by a battery of guns each weighing some four and a half tons behind the tractors over one whose guns weigh thirteen tons or more behind the tractors, is obvious. Yet both fire the same shell, only the former's range is limited to some ten thousand yards, whilst the latter will fire to over twenty thousand.

So great an insistence has been placed in previous chapters upon the necessity for close co-operation between Artillery and Infantry that a few words may be devoted to the subject, which is another problem confronting the gunner. The modern attack takes place in the midst of a cloud of smoke and gas so dense that the artillery observation officer may just as well shut up shop and go home to his battery for all the assistance that he can render it. He must depend entirely upon communication with the infantry for information as to their dispositions, wishes, and the progress they are making. Artillery fire should be used to pave the way for the infantry in every stage of an attack, they are best situated to indicate the directions in which they desire fire to be directed, they are the only people who can determine when their own batteries are becoming a menace to them. Very often during the assault, or perhaps more often in minor trench raids, a fleeting opportunity occurs when a few rounds fired at a suddenly disclosed party of the enemy would be of untold assistance. Even in the everyday life of the trenches the infantry often discover momentary targets which are invisible to artillery observers. Rapid communication between the two arms is imperative, and is, in practice, almost

non-existent. The very organization of a modern army forbids it. An infantry officer, for instance, sees evidence in the trench before him of a working party. They may be constructing an emplacement for a machine-gun or a *minenwerfer*. At all events, a few rounds dropped into the enemy's trench there or thereabouts will do no harm. So he communicates with the Battalion Headquarters, who communicate in turn with Brigade Headquarters. From here the chain proceeds through its various links, to Divisional Headquarters, thence to the Divisional Artillery Commander. He passes on the information to the Heavy Artillery Group in whose area the trench is situated, whose Commander forthwith orders a certain battery to expend half a dozen rounds on such and such a combination of letters and numbers. The Battery Commander informs his observing officer, who identifies the spot to the best of his ability, and opens fire. By this time the infantry officer has forgotten all about the working party, who have long ago gone home to dinner, and the rounds are in all probability wasted. During the progress of an attack, when the necessary telephone lines are not ready laid, the message is still longer delayed, and probably never gets through at all.

The ideal method would be, of course, for the infantry officer to point out the target direct to the observation officer, who would be empowered to open fire upon it immediately. But this procedure is impossible, especially with units so hastily trained as those that compose our improvised armies. It would lead to confusion, to waste of ammunition during the periods when the latter is being accumulated against more strenuous times, to the fire of

batteries being diverted from an important objective to others less important, and to the distribution of fire getting out of hand. But there should surely be some means of devising closer co-operation. The expedient of allowing artillery officers to go forward with the infantry has been tried, but this invariably results in their losing touch with their batteries, and so becoming worse than useless. It is a matter that may be classed as one of the unsolved problems of war.

The last minor problem that confronts the gunner is that of the arming of his men with weapons other than the gun that is their sacred right. There are two schools of thought, one holding that in the case where an enemy advances upon the battery, and the latter is not withdrawn, either because it is desired to sacrifice it in the general interest, or because its means of locomotion, whether horses or tractors, cannot be brought up in time, the gunner should be armed with a rifle as a means of self-defence. The other school holds that the gun is the gunner's only weapon, and the provision of any other arm is unnecessary. And the latter school prevails. Looking at the matter impartially, every sound dictate of war seems to point to the conclusion that the gunner should not be burdened with a rifle. The occasions when it would be of any use to him are few and far between, and meanwhile the cumbrous hand-gun and its ammunition must be dragged about by an equipment that has quite enough to drag as it is, be the battery Horse, Field, or Garrison. Further, the gunner's job is one of specialization, the whole time of his training is required to teach him the intricacies of his own arm, without the encroachment necessary

to teach him to wield a rifle efficiently. More important still, every rifle that is not issued to the artillery is one more available for the infantry, whose true weapon it is. Perhaps there is some justification for those who hold that rifles should be issued to the observation party, but here again much the same arguments prevail. The observation party usually has a walk of a few miles before it, and certainly has much to carry with it. For many days in succession I used to start out at five every morning to my observation post, a distance of two and a half miles, accompanied by two telephonists. Between us we had to carry a load consisting of telephones, reels of wire, observing instruments of all kinds, and our food for the day. If each of us had been burdened with a rifle and ammunition in addition, our sorely tried legs would have failed us. Besides, had we been attacked, it is to be hoped that we should have been far too busy directing the fire of our battery upon the attackers to worry much about rifles and such-like little-understood contraptions.

And herein lies the whole crux of the matter. Give a man a weapon, teach him to use it, and he grows to rely upon it. And if the gunner has a rifle by his side in a crisis, he is apt to forget his one supreme duty, that of serving his gun under all circumstances. Imagine a battery, left in an exposed situation to cover the retreat of the remainder of the forces, with orders to fire upon the advancing enemy until it is finally put out of action. The tradition of the Regiment is one unimpaired by considerations of a weapon to which its members may fly in a vain attempt to save themselves. That battery should continue to fire in the face of the charging troops that menace it,

until they are almost upon it, and then such of the personnel as can still crawl should break the breech mechanisms with their handspikes so that the guns are useless to the enemy. The function of a rifle in such an emergency is hard to see.

CHAPTER XI

TRANSPORT

THE question of the transport of Artillery is one upon which very much hangs. Mobile artillery, consisting as it does of loads of varying weights mounted upon wheels, requires very different means of conveyance according to its degree of mobility. For the purpose of considering these means of conveyance, or transport as it may be called, mobility may be gauged by the actual weight of the load when packed for travelling, in other words, the weight behind the team or the tractor, as the case may be. It will not be unprofitable to consider what this load consists of. In the first place, there is the gun or howitzer, the actual piece of ordnance, weighing from twelve hundredweight upwards. Then there is the cradle in which it recoils, the carriage that carries the cradle, the axle-tree and wheels, and the various gun-stores that are carried on the carriage. It is rather a curious thing that since the introduction of mobile artillery, the lighter natures of ordnance have always been mounted on the same system, which may be termed a system of three-point suspension, that is to say, that three points of the carriage touch the ground when the gun is in action, the tyres of the two wheels and the point of the trail. The reason for this seemingly slavish following of custom is that this is the only system so

far devised that allows of rapid "traversing," or moving of the axis of the gun in the horizontal plane. But a two-wheeled carriage is not self-supporting; if it is to be drawn by a team, the inequality of balance must be borne by the team, which is thus saddled with an extra duty in addition to that of drawing the load. To obviate this, another two-wheeled carriage, termed a limber, is provided, the rear of which is fitted with a big hook. The point of the trail of the gun is made with any eye, and when it is desired to move the gun from one position to another it is "limbered up," that is to say, the trail is lifted and its eye placed over the hook of the limber. The two carriages are so balanced that, when loaded with the stores that each carry, the pole of the limber has just sufficient preponderance to rest upon the ground.

In considering the weight of the gun behind the team it is necessary, therefore, to include the weight of the limber and of its contents, whether they be gun-stores or ammunition. The whole load, gun and limber form the weight which the team has to draw, and they are practically one four-wheeled carriage, with a lock allowed for by the play of the trail-eye on the limber-hook, and only limited at the point where the limber-wheels bear against the sides of the trail. It will easily be understood that the actual weight of the gun is but a fraction of the total weight that must be drawn. For instance, a howitzer that weighs twenty-five and a half hundredweight in itself has a carriage, limber, stores, etc., that weigh eighty-two and three-quarter hundredweight. This is a case taken at random, the weight behind the team of a Horse Artillery gun is about thirty-three hundred-

weight, and that of some heavy guns is approximately thirteen tons. It is obvious that varying means of transport will be required for these varying loads.

But not only will varying means of transport be required, means must also be adopted of spreading these greater weights over more than one axle or even load; they must be subdivided or distributed as much as possible. Light and medium guns and howitzers may be mounted in the orthodox manner, but even then the weight on the gun-wheels will far exceed that on the limber-wheels. To equalize this weight in as great a degree as possible an arrangement is sometimes provided whereby the gun, when limbered up, can be slid back in its cradle, thereby increasing the pressure of the trail eye on the limber-hook, and throwing some of the weight of the gun on the limber-wheels. The less weight that any given wheel has to bear the less it will sink into the ground, and the easier will be the draught and the worse the country that the load can be drawn over.

But such a system of distribution of weight is not sufficient in the case of heavy guns and howitzers, and in their case the weight must be subdivided. For ease of transport the gun is carried on one pair of wheels, with its own limber, the cradle and carriage on another, and so on. When the battery reaches the position that it is to occupy, these various weights are unlimbered and assembled together into the firing position, and must be separated before the battery can again be moved. This system reduces the weight carried by any pair of wheels, and allows of the comparatively easy transport of even the heaviest natures of artillery.

The means of transport themselves vary according

to the weights behind the teams, and are so devised as to allow of the greatest possible mobility under the circumstances. If it is permissible to generalize, it may be said that a team of six horses is the largest that can be driven and controlled continuously with exactitude at a trot or any greater pace, and that for the draught of any load that such a team can draw at a trot, horses are most suitable. Experience has shown that six horses, harnessed in pairs, the near horse of each pair being ridden by a man who is called a driver, the wheel pair supporting the pole of the limber, is the most suitable method of transport for Horse and Field Artillery. The drivers, if properly trained, have perfect control of their teams, which in turn are fully up to the weight of the loads they are called upon to draw, conditions which tend to the greatest mobility obtainable. For loads greater than these, other means must be employed.

The transport of Garrison Artillery Batteries has passed through many vicissitudes. It may be taken that the weight behind the teams to be drawn in the case of Heavy and Siege Batteries is from four and a half tons upwards, yet these guns must be capable of reasonable mobility. The matter resolves itself into a consideration of the relative merits of animal and mechanical traction. This is no place in which to enter into a dissertation upon so vexed a question. It may be stated broadly than an animal which proceeds by placing its feet can cover rougher and softer country than a mechanically propelled wheeled vehicle, in which the driving strain upon the wheels, and their necessarily small diameter, tend to make progress over anything but a hard and comparatively smooth surface very difficult. Apart from this,

mechanical transport has all the advantages. It can travel faster than any practicable team, it does not get tired, and can travel almost continuously without rest, and, almost more important than either, when at rest it does not consume forage, and does not require the care and attendance of half the battery. Its first cost is much greater, but its upkeep is probably considerably less.

However, for various reasons the Heavy Batteries are horsed, and their teams consist of eight heavy horses, which are capable of drawing the requisite loads at a walk or a slow trot. The earlier Siege Batteries were also horsed, pending the provision of suitable mechanical transport for those that were to follow them. In these Batteries the personnel were not provided with any means of transport, and they marched on foot with their guns, thus approximating to the Foot Artillery of Continental armies. Indeed, Foot Artillery would seem to be a very excellent title for all Garrison Artillery Batteries. Some reform in nomenclature is badly needed. The word Garrison is hardly applicable to mobile batteries. The title of Heavy Batteries for the sixty-pounder and 4.7 batteries is out of date, for they are in fact the lighter portion of all Artillery other than Horse and Field. "Siege," as applied to the remainder, is a title that has endured since the only conception of the employment of artillery of large calibre was in the case where a field army sat down before a fortress to engage in a regular siege, as laid down in the training manuals. Perhaps Foot Artillery, divided into three classes, Light, Medium, and Heavy, would meet the case, "Light" to include the present "Heavy Batteries," "Medium" such guns and howitzers as are mounted

complete on limbered carriages, and "Heavy" the remaining guns and howitzers that travel in parts, or are fitted upon railway mountings. But this is a digression.

Many experiments were made, dating from some fifteen years ago, with the transport of the three Siege Batteries that then existed. The limitations of animal draught were felt then, as the result of attempts to devise some better method of harnessing the horses to the weight than those adopted by the lighter Horse and Field Batteries. The first attempts to produce a practical tractor were made in the early years of the present century, when, be it remembered, light internal combustion engines were in their infancy. Two enormous traction engines were provided for each Battery, each weighing in itself about twenty-five tons and capable of drawing two howitzers each weighing about five tons behind the team. The traction engines and their loads would travel along a good metalled road at about four miles an hour normally, and considerably more if pushed. They were provided with a length of wire hawser and a winding-drum, with which they could haul themselves up any incline, and subsequently their loads after them. This is always supposing that some suitable holdfast could be found to which to attach the hawser, which very rarely happened. The hawser could also be used for dragging the guns across ground over which the engine itself dare not venture. These great machines were proved to be hopelessly impracticable, owing mainly to their weight. Once take them off a metalled road and they were helpless. They would convert a country lane in winter into a bottomless sea of mud that was practically impassable to

anything that was to follow them, and into even hard grass-land they would sink to a depth that required all their appurtenances of cable and winding-drums to get them out. I firmly believe that if one had ventured on to ploughed land with them, they would have sunk to the beautifully polished brass tops of their funnels. We used sometimes to march across England with them, and the course that we were compelled to follow was very instructive topographically. We had to avoid the neighbourhood of rivers and streams, there are very few bridges that will stand a total load of thirty-five tons, about twenty of which come on one axle. But the engines required constant supplies of water, so that, running water being barred to us, we were compelled to depend upon wayside ponds, at each of which the thirsty monsters stopped and sucked up the greater part of its contents, to the open and profane annoyance of their owners. Frequently our progress was interrupted by the leading engine breaking through into a drain or culvert, and the whole of the traffic of that particular road was held up for hours while we laboriously dragged it out with the help of the other engine. Even in our occasional route marches about our station we did an enormous amount of damage. I fancy that the bills for repair that the War Office was called upon to face on their account was the main factor that led to their abandonment. I have vivid memories of those route marches, the personnel of the Battery on foot, the two great engines and their loads setting up a clatter and a cloud of dust that could have been detected miles away. And on the way home, the drivers, animated by thoughts of a long-deferred meal, would spur their ungainly steeds

to a pace that forced the rest of us to a panting jog-trot in their dusty wake. And argument amidst the clamour was impossible. But they were wonderful things, and would stand an extraordinary amount of ill-treatment. On one occasion, two irresponsible subalterns, of whom the author confesses he was one, succeeded in convincing their Major that it was expedient that they should learn how to drive the things, lest any fate should befall their allotted jockeys. So they went out with them for a morning's instruction, which morning ended with a neck-and-neck race down a straight road. The engines must have got up to at least a dozen miles an hour, at which pace they rocked and swayed till the terrified stokers had to hold on for dear life. There were not many inches to spare in the width of the road, and how we escaped a smash I cannot say. But I remember that my opponent won by a funnel, as one might say, my craven henchman having screwed on the brake in a last forlorn attempt to stop our mad career. The engines did not seem to have suffered much, but the road !

Traction-engines having proved their shortcomings, a return was made to horses, which were at one time harnessed four abreast, and a very imposing sight was a Siege Battery in those days, each gun drawn by eight enormous Clydesdales. But the gunners who had charge of the animals only saw them for a month or so in the year, during which time a contractor supplied them. I have recollections of seeing a gunner, his arms full of harness, gazing despondently at an enormous beast that was contentedly plucking the grass at his feet. He turned to me as I passed. "Beg pardon, Sir," he began apologetically. "Could you

show me how to put these 'ere lashings on ? I don't hardly know which end's the breech and which the muzzle o' this 'ere brute." During the rare occasions when these peculiar units took the field in all their glory to participate in manœuvres, they caused an immense amount of amusement, which rather galled them. On one occasion, I think on Salisbury Plain, a Battery so equipped was in action just behind the crest of a hill, when a Horse Artillery Battery, galloping all out, came over the top. It was too late for them to stop, and their commander was forced to commit the unpardonable breach of etiquette of passing through the intervals between the guns. Without a moment's hesitation, the Major of the Siege Battery limbered up, and, urging his thirty-two enormous steeds to a gallop the like of which had never before been seen, drove in turn through the Horse Battery that had come into action some yards behind him, the five-ton guns bounding about like so many mail-carts. *Quadrupedante putrem sonitu quatit ungula campum*, as we used to learn at school.

On the outbreak of war, Batteries were at first horsed, but immediate steps were taken to provide mechanical transport for them. The first attempt proved a failure, more from the unsuitability of the tractors provided than from any inherent imperfection. A Battery was equipped with Foden steam wagons, probably the most excellent form of heavy mechanical transport when properly organized, and with these was ordered to march across France to its destination. Now, in the first place, Foden wagons require coal and water, and proper supplies of these had not been arranged for ; and in the second place,

these particular ones were fitted with smooth iron tyres, and you cannot expect a vehicle so shod to pull itself and a five-ton load behind it up steep hills surfaced with *pavé*. The Battery's progress was in consequence somewhat chequered, and the Foden was relegated to its true work of carrying heavy loads under proper conditions.

By this time the supply of English commercial petrol vehicles was practically exhausted, and resort was made to the imported article. For the purpose of hauling guns up to five tons behind the teams, a vehicle of this type driving upon all four wheels was adopted, and, on ordinary roads, has proved satisfactory. It is apt to skid helplessly, and must keep to the crown of the road, for once it nears the side of the ditch, it gets out of control and with its gun slides gently into the softest part it can find, out of which it refuses to propel itself. Off a road, even on really good grass-land, it is far more trouble than it is worth, and nothing remains but to haul the guns by hand. It will average six or seven miles an hour with its load comfortably, a greater speed than the gun will stand, and it has plenty of room on itself for stores and the gun detachment. All things considered, it is the best form of traction for medium siege batteries that has yet been devised.

For heavier loads than these, the "caterpillar" is employed. This is not the original "caterpillar" that was armed with a series of feet and used to stalk so majestically over everything that came in its way, but a modified form of engine, with its wheels encircled by an endless steel band and driven by a big petrol motor. It will drag very great weights over any ordinary rough ground, but it dislikes *pavé*, upon

which it skids and slides in a most terrifying manner. It will travel with its load about three miles an hour, but has no room upon it for stores or men.

So far we have only considered the transport of the guns themselves, but there are also stores, ammunition, and personnel to be considered. In the Horse and Field, the stores are carried upon the carriages themselves, being usually of a very light nature, and the personnel either ride upon the carriages as well, or are provided with horses. In Heavy Batteries the same arrangement prevails, except that a large proportion of the personnel have to walk. Ammunition is carried in wagons, which are limbered vehicles, both wagons and limbers holding a certain number of rounds. Two of these are allowed per gun, and they are drawn by six horses in the Horse and Field. In action one of each pair is always up with its gun, the other always with the horses or in the wagon line. The ammunition wagons of the Batteries carry ammunition from the Brigade Ammunition Column (or in the case of Heavy Batteries and horsed Siege Batteries, a special Battery Ammunition Column) to the guns, and are always kept full. As soon as the wagons with the guns are nearly empty, the full ones take their place, and the former are brought back for replenishment.

This arrangement is not possible in the case of heavier siege units. The six-inch howitzer, for example, which is the lightest ordnance employed in Siege Batteries, fires a shell weighing a hundred pounds, and the weight of the complete round may be taken to be about a hundredweight, so that it would be impossible to maintain an adequate supply by means of light vehicles. The method adopted is the formation

of a Battery Ammunition Column of three-ton motor-lorries, each of which can carry about sixty complete rounds. These lorries come up to the Battery by night, and deposit, or "dump" as the modern expression is, the requisite number of rounds, which varies of course with the tactical situation at the time. It is not perhaps an ideal method, but is certainly the best that can be devised. One's first experience of leading a string of noisy lorries on a pitch-dark night, wherein of course no lights are allowed, along a doubtful road already full of troops and probably exposed to the enemy's fire, is apt to be thrilling.

The actual course of supply of ammunition from this country to a Battery in action is interesting, as showing the enormous amount of organization required for its delivery. It is shipped from a port to a base in France, and thence dispatched by train to "railhead." Railhead may be defined as a point upon the railway somewhere in rear of the area of each Army Corps, provided with good means for loading from trucks into lorries. From here, ammunition for Horse, Field, and Heavy Batteries is removed by the Divisional Ammunition Parks, which are equipped with motor-lorries and each of which is stationed at some point in rear of its Divisional Area. These lorries are kept replenished, and periodically as many as may be required are dispatched to a "refilling point" in some agreed position. At this point the Divisional Ammunition Columns, consisting of horsed four-wheeled wagons, are refilled, and they in turn supply the Brigade Ammunition Columns for Horse and Field, and Battery Ammunition Columns for Heavy Batteries. In the case of Siege Batteries, in order to avoid undue handling of the heavy weights

involved, the Battery Ammunition Columns usually proceed direct to railhead. This complicated organization, which seems unnecessary during a Battle of Position, is provided to cope with the difficulties attendant upon a Battle of Movement, when troops whose position may be constantly changing have to be supplied from a stationary railhead. In practice it has worked very well, and shortage of supply at the guns has nearly always been due rather to deficiencies in the actual amount of ammunition available than to any breakdown in the chain of supply.

Such are the methods of transport, both of guns and of ammunition, that exist in the present war, and, with the exception of Siege Batteries, they are the same that have been practised for many years. But Siege Batteries in a field war are themselves of recent introduction, and naturally the scheme as far as it concerns them is as yet only in its experimental stages. But it seems certain, at least, that mechanical transport of these Batteries has come to stay, and if this is so, there will be time for the removal of one anomaly that at present exists. In the case of horsed batteries, the horses and their drivers, both of the guns and ammunition wagons, form a definite part of the Battery, and are as much under the control of the Battery Commander as the guns and their detachments themselves. Even the Brigade Ammunition Column is part of the Brigade, which is an Artillery Brigade, and contains nothing but Artillerymen. But in the case of a Mechanical Transport Battery, the case is not analogous. The lorries that draw the guns and carry the stores, the ammunition column, the very car allotted to the Major and the motor-bicycles issued to the remainder of the officers, are not

part of the Battery, but of the establishment of a Company of an entirely different branch of the Service, the Army Service Corps, of which their drivers are members. Now the Army Service Corps is an organization that has proved itself nearly perfect in this war ; whatever may be the local or temporary conditions, one may be sure that one's rations and one's ammunition will contrive to reach one expeditiously, which is the greatest blessing of all. But it is in principle unsound that a Battery Commander should have no direct control over the means of transport of his guns or of his ammunition, to say nothing of being in the curious position of having to rely for his own means of locomotion upon a car which he is not allowed to drive himself, and in which he can only be conveyed by a man of an entirely different Corps. This is written in no spirit of jealousy or of depreciation, the cases where any friction has arisen between Batteries and the A.S.C. Companies that provide their legs, as it were, are extremely few and far between. In my own experience, the officer in charge of our Battery lorries and of our Ammunition Column was one of the most extraordinarily able and painstaking people that I have ever met. But this confusion of command leads to all sorts of annoyances and is irksome to both parties, the A.S.C. as much as the R.G.A. For one thing the A.S.C. drivers draw (or drew) six shillings a day. They live in comfortable quarters at some point well behind the line, and have nothing to do but keep their lorries in order and make occasional journeys from railhead to the Battery, or to accompany it upon its moves. The man who serves the gun draws one and twopence halfpenny, just a fifth part of their wage, and for this sum he has

to bear the brunt of discomfort, danger, and hard work. If the two classes never met, it would hardly matter so much, but, mixed up as they are during the movement of the Battery, unpleasantness is sure to follow.

Further, a Battery only receives its mechanical transport just before it sails for overseas, and there is consequently very little opportunity for the officers of the two branches to get to know one another. The Battery Commander is placed in the position of having to ask for services to be rendered where he should be able to give a command to men under his own direction. There seems to be no very good reason why this anomaly should exist, beyond the doubtful advantage of keeping all mechanically propelled vehicles under the direction of one branch of the Service, which does not always apply, as the Royal Engineers control many such. Speaking generally the personnel, both officers and men, of the A.S.C. Mechanical Transport Companies allotted to Siege Batteries, have been recruited since the commencement of the war, and there was therefore no question of the transfer of them from one unit to the other. They might just as well have been labelled R.G.A. as A.S.C., in which case they could have been posted to Batteries as part of their establishment in the ordinary course. As it is, they own a sort of divided allegiance, they are naturally anxious to serve the best interests of the Battery to which they are attached, but at the same time they are subject to the direction of their own Corps. And no man can serve two masters, we are told.

Some of their members, however, from the very fact that they acquire something of the charac-

teristics of the gunner, being as they are in fact, if not in theory, a very essential part of the Battery, deserve a few words of mention here. And of these the foremost is a certain long, thin individual who controlled the destinies of the lorries that were attached to our Battery. We somehow adopted him from the first moment of his appearance among us, he was a cheerful, apparently irresponsible individual who kept us all amused with the perpetual clatter of his tongue. But beneath a frivolous exterior he hid a nature of sterling worth. His lorries were always ready when we wanted them, his tongue could be turned to the gentle art of wheedling the exact details of ammunition that we required from a reluctant officer at rail-head. He and I travelled to the Front largely together, we shared the same cabin on board ship, the same peculiarly shaped cupboard that was our first billet. He lived in our Mess, and foraged for us with a persistence that was nothing short of amazing, for ever supplying a delighted Mess Secretary with some new delicacy that he had procured. And when we were in position and we had perforce to part company, his station being then with the ammunition column some way in rear, it was with delight that we hailed him when he brought us up our nightly supply of ammunition. He loved the Battery position far more than that of his own Column ; he was never so delighted as when we happened to be firing when he arrived. One night I took him up to an observation post I had established near at hand, from which a very large proportion of the line could be seen. It was a rotten place to ascend at night, the interior of a ruined church tower, within which we had placed certain very precarious ladders. I knew the way up,

and went ahead, he, full of enthusiasm, following at the grave risk of a broken neck. But I think he was fully rewarded. There was a huge fire burning just behind the enemy's line, covering several acres, and the whole scene was as clear as daylight. He left us that evening vowing that he was about forthwith to resign his commission and to enlist as a gunner. And a very capable one he would probably have made.

But possibly the greatest character in the whole Company was Private Robinson, who drove the leading lorry, the one that drew my own particular gun. The gun herself, poor old thing—I called her Stella, because, in common with all howitzers, she pointed her ugly nose in the air and shot towards the stars—was much about my own age, and seemed always in a state of ruffled dignity at being towed about by so modern and vulgar a thing as an American petrol-lorry. She was like an old lady, unduly hustled, who drops her many parcels at every step. The track of the Battery must have been littered with rivets and nuts out of the framework of her carriage, and with the many other trifles that she discarded at every bump. Nothing about her would keep tight, the glands of her buffers became unscrewed till she leaked disgustingly; nothing she carried was safe, however securely it was lashed. The whole column had to be halted whilst her distracted husband, the limber-gunner, organized search-parties to go back and find some absolutely vital part. And when this happened Private Robinson rose from his scat and swore. His lorry was a creature of strange whims: it boiled furiously and flung jets of superheated steam into his eyes; it had a passion for petrol that emptied a two-gallon tin every five miles or so. Its steering-gear

was as much as two men could hold, and when it got the bit fairly between its teeth, it took an almost super-human effort to wrench it away from the ditch. All this Private Robinson bore with resignation. The problems of following an unknown road in the middle of the night without a light to guide him moved him to exhilaration. But the stoppage of the Column filled him with fury, and no wonder. For though I have known and wrought with petrol-engines from the first days of their development, I have rarely known one so difficult to start as this. It usually involved dismantling half the engine and pouring liquids out of cans into the other half, as a preliminary. Then as many strong men as possible got on to the starting-handle and turned it desperately, until the engine coughed and threw them all over backwards. Then the process would start again.

Fortunately Private Robinson was a humorist, and so long as the starting of his engine was not in question would keep us amused by the hour. He had been a London bus driver, and even in these degenerate days the bus driver seems to acquire a fund of anecdote beyond other men. I do not believe that a quarter of the incidents that he described ever occurred, but then that hardly mattered, at all events he had the inventive capacity, and that was enough. Wherever he went he carried with him a nondescript dog that answered to the name of Kelly and slept in some unconsidered corner of the lorry. And I have known the whole Battery entertained at the close of many sleepless hours by the conversation of the man and the tricks of the dog.

CHAPTER XII

IN CONCLUSION

IT is impossible to forecast, even after two years of war, the probable total length of its duration, or the conditions which will obtain in the military situation of the world upon its conclusion. We can only turn to history, and endeavour to draw from it the lessons that it holds. And the prospect is not very encouraging. A vital contest between two great nations or groups of nations has rarely or never been decided in less than a number of years, during which war may be continuous or intermittent. The Franco-German war of 1870-71 is no exception to this rule, for it may be considered the first phase of the struggle in which we are now engaged. Had we intervened then, as under a more far-seeing administration we should have done—for let us rid our minds of the hypocrisy that nations go to war upon questions of right, and realize that they do so when it is expedient for their welfare—this war would probably never have occurred, and the issue of the struggle would have been decided upon a far smaller scale than can ever be the case now. For this war, whatever causes may have underlain its beginnings, is an incident in the struggle for existence between two great races, ourselves and the Germans, and existence for either involves its complete supremacy. I have been criticized for not

realizing in a former book that "this war is not one for top-dogism, but for equality among the nations." I can only inquire what two great empires have ever in the history of the world existed side by side for long without a struggle in which one gained the supremacy, and what great war or series of wars has ever been fought in which the final result was the equality of the nations ? Even if the present war were to end in a condition of equality, how long would such a condition last before the struggle would be renewed ? The deeper seated causes of our quarrel with Germany are the same as those that swayed Rome and Carthage, Venice and Genoa. Is it not fair to assume that its ultimate results must be the same ?

We are faced then with the prospect of a war of long duration, or, more probably, with a comparatively early peace, to be followed by the resumption of hostilities after a lapse of years. Germany, if she is to attain supremacy, must gain an increase in territory, and by reason of her military organization it is easier for her to do so on the Continent of Europe than elsewhere. She will not cease to molest her neighbours until she is utterly crushed, and even when crushed a sword heavier than any she could ever hope to forge must be maintained as a wholesome check upon her aspirations. In any case it is difficult to imagine circumstances that would justify us in returning to the standard of military strength that we maintained before the war. Circumstances have taught us once more that sea-power alone can never win a war, however valuable an aid it may be to its successful prosecution. We shall be bound to maintain an army of a size comparable to those of the

continental nations, and our system of maintaining a professional army will have to be abandoned. No nation can afford to pay a living wage to a large body of men who are unproductive in return, no profession that brings in nothing in return for the expenditure lavished upon it can exist under any economic conditions. We must adopt permanently some system akin to conscription—perhaps we may prefer to call it militia ballot—by which men who are not engaged in trades that are essential in time of war may be trained for a period whose duration is sufficient to convert them into soldiers. Assuming the population of the country to remain constant, the eventual strength of the men under arms at any moment may be found by multiplying the number of men between the ages of, say, 18 and 50 and available for training by the number of years during which it is decided that training shall continue, and dividing the product by the difference between 18 and 50. This is a sum for the statisticians.

By this means and by the establishment of permanent cadres on the continental system, an army of very fair efficiency and large numbers would become available upon mobilization, and the cost of training it need not be prohibitive. The men under training can fairly be considered as apprentices to a trade, and could be paid upon a corresponding scale ; once trained they are capable of earning their own living and need no further help from the State. It may be said that this is nothing but Prussian Militarism, the very thing we are fighting to destroy, but, after all, is militarism such a terrible thing outside Germany, or even within it, for that matter ? Is it not rather a bogey used to frighten children by those who hardly understand

what it means? The soldiers of our New Armies are not crushed and trampled on by the iron heel of unreasoning severity; the majority of them are far happier and more contented than they have ever been in their lives before. A man is not necessarily a slave because he has to do what he is told instead of being a free agent and using his freedom to become a nuisance to himself and to his fellow-citizens. Discipline is the greatest blessing in the world, and it is not unreasonable to hope that the principles of discipline learnt by a man during his period of military training would abide with him for the rest of his life. And surely the nation needs it badly enough. The history of labour for the past few years is that of an undisciplined mob, rebelling not only against its employers, which under some circumstances may conceivably be justifiable, but also against the authority that it has set up for its own protection, the Trades Unions, which is suicidal. The balance of advantage in favour of compulsory military training, under a title and in a form that would not offend our English susceptibilities, appears to be overwhelming. Apart from that, some such scheme will probably be necessary.

The problem of the supply of officers under such a scheme is a very grave one. It may be possible to treat them as the men are treated, and of the yearly supply to select those that show most promise as officers. Whether it would be possible to train them in the same period as the men are trained, and then relegate them to the reserve, is a moot point. In practice it probably would not. If they were retained for any prolonged period it would be very difficult to find men to fill corresponding positions

in other professions, and the officers themselves would be released at an age unfavourable for the adoption of their future career. It might be possible to have a certain number of officers trained in this way and to maintain in addition a Corps of Officers who would be professional soldiers, charged in peace-time with the duties of training the men as they were called up. In such a case the pay of an officer would have to be substantially increased, probably by not less than a hundred per cent., for in the future men are not going to join a profession that will involve hard and monotonous work with the prospect of having to augment their pay from private means in order to live. In the case of a standing army, where in peace-time the greater part of an officer's time is spent in enforced idleness, the argument for a living wage is not so essential.

The above are only suggestions, thrown out in the hope that peace may find us prepared with some definite scheme. We shall be left with a large number of trained men ready for passing to the Reserve, and all that will be required will be the constant training of youths to take their place year by year as they pass the military age. Surely it is a chance for the introduction of universal military training such as no other nation has ever had !

Turning aside from such general considerations as affect the whole Army, we come to one that concerns Artillery. This war has taught us the value of heavy mobile ordnance, we have constructed it in quantity, and armed a very large number of batteries with it. Each one of these batteries has allotted to it a quantity of mechanical transport, consisting mainly of three-ton petrol-lorries. During peace-time, batteries will

not require this mechanical transport for training purposes, except for a short time, only a few days indeed, once a year. It should be possible to devise some scheme for its employment commercially throughout the rest of the year in conjunction with some system of Government requisitioning when required. The lorries are all suitable for commercial work as they stand, without alteration, and they would be far better so employed than housed in stores in readiness for mobilization. The same thing applies of course to horses, but in their case a scheme for their employment is already in existence. By means such as these the maintenance of the heavier natures of artillery in peace-time need be no greater than that of any other arm.

Ammunition reserves must be established on a vast scale, and certain establishments that produce articles of commerce in peace-time must be capable of conversion into munition factories on mobilization. The whole issue of a campaign may depend upon a rapid initial advance, such as that with which this war opened, and a rapid advance is only possible when enough ammunition is available to break a way through all opposition. It is hopeless to attempt to catch up with the requisite rate of artillery fire once war has begun.

In the foregoing pages I have endeavoured to give some idea of Artillery, the guns that form it and the men that man them, and if I have contributed in the least degree to clear away the fog that hangs over the subject, I am amply rewarded. Artillery is a technical business, and it is difficult for the average reader of the newspapers to realize its true function in war, to

form a mental picture of what its business really is. I have written from the standpoint whence I have seen it, that of the Garrison Gunner, for I believe that to most people an account of the doings of what is practically a new branch of the British Service will be of great interest. We had, at the outbreak of war, three so-called Siege Batteries, we have now a number that runs into three figures. For these batteries the greater part of the ordnance had to be constructed, the men had to be obtained from the Coast Defences and by recruiting. The Batteries themselves had to be formed and trained, equipped with the enormous number of technical stores that heavy guns require for their service, and sent overseas. Ammunition of new types had to be made or obtained, shells forged, turned, and filled, cartridges made up, fuses and tubes manufactured and new patterns devised to meet the changing conditions of modern warfare. The labour of experiment alone involved in the production of new types of shell was immense, the cost of procuring machinery for their manufacture and for that of the fuses to explode them almost defies computation. Of the details of these things it is impossible yet to speak, but when the time comes for their publication it will astonish the world.

I have not touched upon many of the phases of a gunner's life, the Trench Mortar Batteries, popularly known as the Suicide Club, the Anti-Aircraft Batteries, and many other of the unconsidered jobs that he performs. I have tried to show him as he exists, with his virtues and his failings, mainly in Batteries of Heavy Artillery, and I trust that the verdict will be favourable. If it is not, it is my fault and not his.

But I believe him to be true to his great motto, the greatest and most aspiring that the world has ever known : “ *Ubique, quo fas et gloria ducunt* ”—Everywhere, where right and glory lead. I believe that every soul in the Regiment, from senior officer to latest joined recruit, feels some stirring of that sacred motto deep down in his heart, knows that it means that his place is wherever England’s battles are being fought.

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